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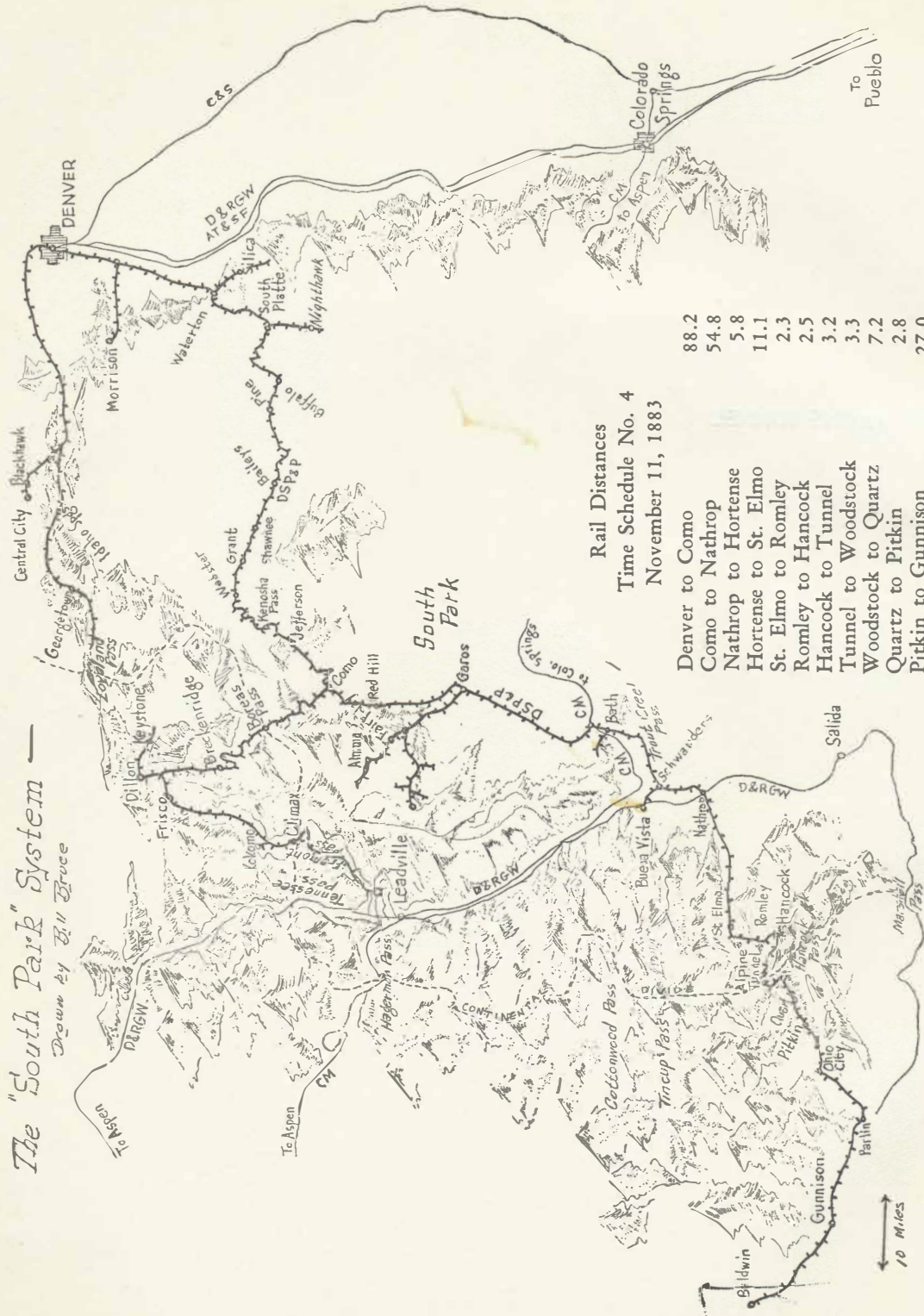
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HISTORIC ALPINE TUNNEL



# The "South Park" System — Drawn by E. H. Bruce



## Rail Distances Time Schedule No. 4 November 11, 1883

Denver to Como	88.2
Como to Nathrop	54.8
Nathrop to Hortense	5.8
Hortense to St. Elmo	11.1
St. Elmo to Romley	2.3
Romley to Hancock	2.5
Hancock to Tunnel	3.2
Tunnel to Woodstock	3.3
Woodstock to Quartz	7.2
Quartz to Pitkin	2.8
Pitkin to Gunnison	27.0



# HISTORIC ALPINE TUNNEL

by DOW HELMERS



SAGE BOOKS, Denver



930

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Dedicated to Don Bloch

Artwork by William W. Bruce

Supplemental photography by Charles Webb

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#### A NOTE TO FOUR GIRLS . . .

For months you have patiently lived and breathed "Alpine Tunnel." You, Donna, suffered all the talk with a resignation that seemed to say, "Fathers acquire peculiarities which their children simply have to bear."

On the Jeep trips, it was great fun to have you with us, Margie. At just 9 years old, you tackled those mountains as if they had been put there for your personal conquest. Your enthusiasm was contagious, even though your questions were often unanswerable.

Your quiet, intense interest was most refreshing, Kathy. It seems only yesterday that you and I would read about "The Little Engine That Could." Now you are 13 and your questions were surprisingly penetrating. Since I could not answer them all, we undertook the long, fascinating search for the answers . . . a trail that led us into friendships that we will always treasure!

The brief notes on the following pages may answer many of your questions. I hope so. It makes one very humble to look into the lives, joys, hardships and triumphs of the men of Alpine.

You once called it a "dead railroad." No, Kathy, that "streak of rust" called the South Park will live forever in yarns and pictures, and that "link of darkness" known as THE tunnel grows in stature and reverence among rail fans with each succeeding year. It has been called the "Immortal Tunnel."

To my wife, Theresa, who disciplined us, fed us, and watched over us, thank you! I hardly need mention that this humble collection of "notes" does not and could not tell the whole of the great story of the Alpine Tunnel. But I do hope it will answer some questions and give a glimpse into an age of greatness . . . and the dedicated men who lifted it into history!

DOW HELMERS

#### AUTHOR'S NOTE

Where old newspapers and historical documents have been quoted, various spelling of proper names of persons and locations will be noted. Also, several different dimensions for the Alpine Tunnel are given. These have not been changed, but have been reproduced exactly as originally published.

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Where the mountains of the  
Continental Divide are on  
the grandest and most colossal scale,  
Where the silvery peaks are  
daily bathed in clouds, and the  
valleys at their feet sink to  
depths the sun briefly lingers in,  
and where winter blends with summer  
. . . a new trail has been blazed!

It has been hewn from the eternal  
granite to heights so dizzy that  
naught remained but to pierce their  
pedestal.

Up this trail and through this tunnel  
and down to the depths beyond,  
the iron horse glides with a progress  
as steady and safe as a pathway  
of solid rock and heaviest steel  
can suggest!

*The New West*, September 2, 1882

GHOST RAILROAD OF 1896

I'm looking back some fifty years  
To the "Alpine Blizzards" blowing,  
Strenuous efforts that we made  
Just to keep that railroad going.

That thin cool air, still spurs your step,  
From off the peaks, the same wind blows,  
But now, no trains to test its strength  
Nor rotary plow to buck its snows.

But still above those snowy heights,  
The twinkling stars and moon still shine,  
Down on the crumbling engine house,  
And what is left of old Alpine.

The blizzards rage, snow fills the air,  
But no railroad's there, or track,  
Those sturdy men have served their day,  
The Rotary plow has gone to rack.

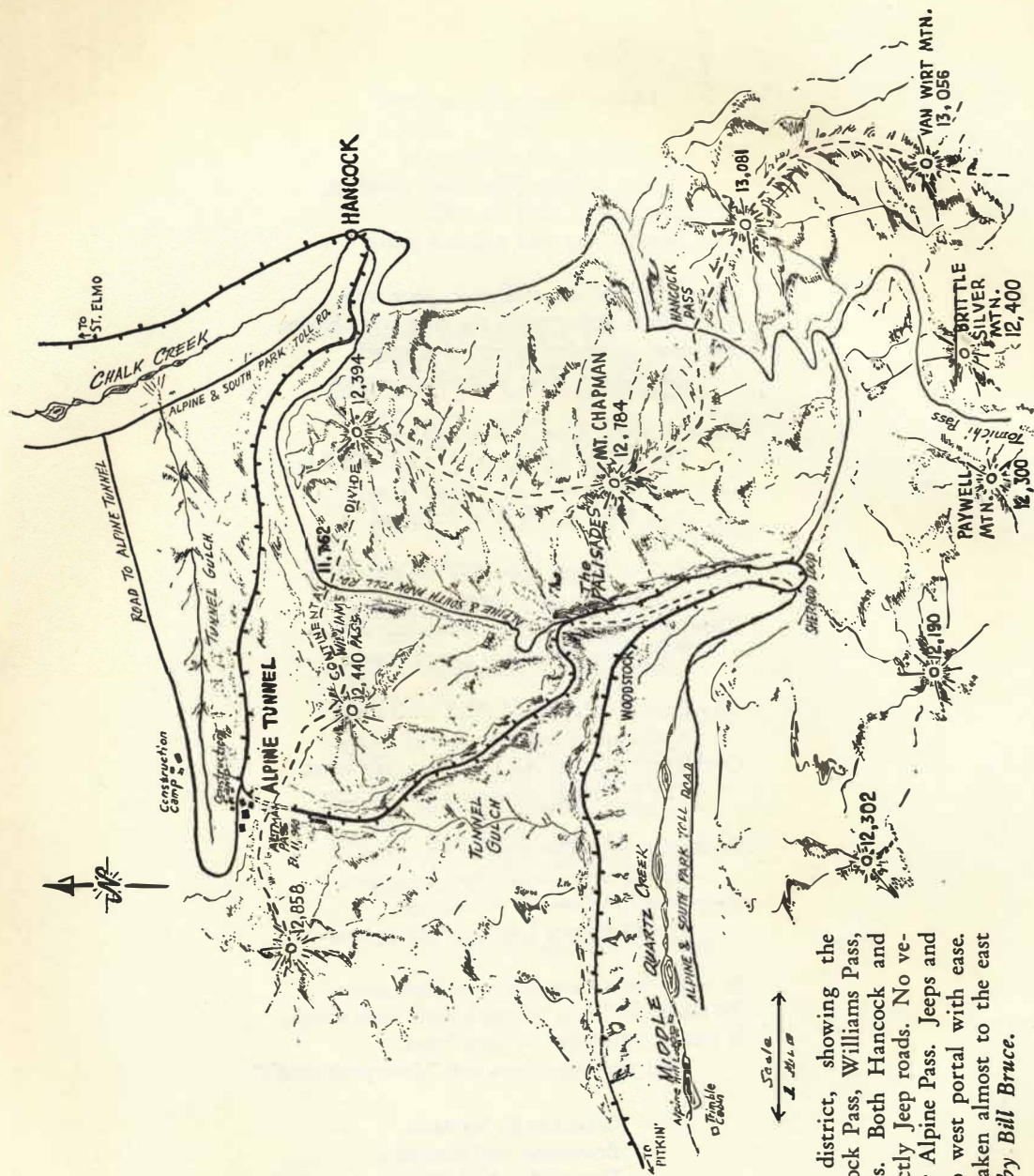
The Tunnel's closed and filled with rock,  
And undisputed storms hold sway.  
Once more "Dame Nature" holds her own,  
The Railroads gone, it's had its day.

Rocks can now slide and trees may fall,  
No wires or track, there to repair,  
Deep cuts can now fill to the top,  
There's no one left up there to care.

So when your thoughts turn back again,  
To those old "Pals," though some were rough,  
It puts a warm spot in your heart,  
That *you* were there and "done your stuff!"

CHARLES C. SQUIRES  
Brakeman and Lineman,  
Denver Leadville & Gunnison R.R.





Alpine Tunnel district, showing the roads over Hancock Pass, Williams Pass, and Altman Pass. Both Hancock and Williams are strictly Jeep roads. No vehicle can go over Alpine Pass. Jeeps and trucks can go to west portal with ease. A Jeep can be taken almost to the east portal. *Drawn by Bill Bruce.*

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## **PART I**

## **THE STORY**



*Continental divide*

ALTMAN PASS ELV. 11,940. ft.

*Note Different  
Vertical and  
Horizontal  
Scales*

Vertical  
Scale  
100  
feet

# ALPINE TUNNEL

LENGTH..... 1,771.7 ft.

COMPOSITE Minimum DIMENSIONS	COMPOSITE Maximum DIMENSIONS
Width at Rail Level 8' 10"	Width at Rail Level 14'
Height at Spring-Arch 10' 10"	Width at Spring-Arch 16'
Height Above Rails 13' 9"	Height Above Rails 25'

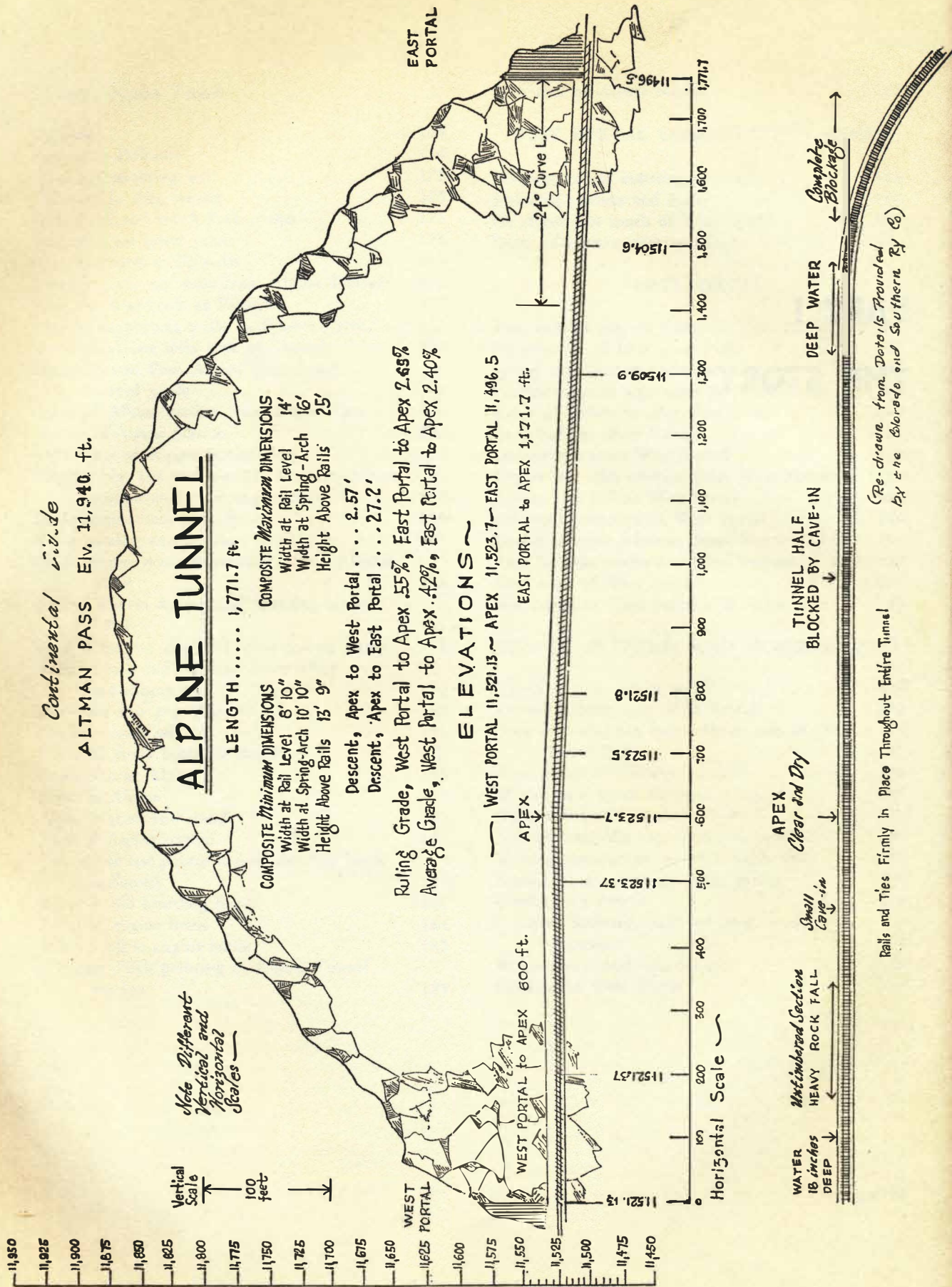
Descent, Apex to West Portal.... 2.57'  
Descent, Apex to East Portal.... 27.2'

Ruling Grade, West Portal to Apex .55%, East Portal to Apex 2.69%  
Average Grade, West Portal to Apex .42%, East Portal to Apex 2.40%

## ELEVATIONS

WEST PORTAL 11,521.13 ~ APEX 11,523.7 ~ EAST PORTAL 11,496.5  
EAST PORTAL to APEX 1,171.7 ft.

EAST  
PORTAL



(Re-drawn from Details Provided  
by the Colorado and Southern Ry Co.)

Rails and Ties Firmly in Place Throughout Entire Tunnel



## Introduction

"If it be Romance, if it be Contrast,  
if it be Heroism That we Require,  
What Was Troy Town to This."

—Robert Louis Stevenson

Piercing the towering Saguache Range of the Continental Divide in central Colorado, more than two miles above sea level, lies a railroad project that has become the most historic bit of railroading in the world. Cradled in the majestic grandeur of the surrounding peaks is historic Alpine Tunnel.

Here, in 1881, east met west, in the dark confines of the first bore through the Continental Divide. Here the dedicated builders of the Denver South Park and Pacific Railroad conquered what they believed was the last great barrier in the march of the "shining rails" from Denver to the Pacific coast. The Alpine Tunnel was a part of the system of the Denver South Park and Pacific Railroad, generally referred to by Coloradans simply as the "South Park."

Through the backbone of the continent, five hundred feet under the rocky top of Altman Pass, rails carried South Park trains to an altitude of 11,523.7 feet above sea level, achieving the highest section of adhesion (not cog) railroad on earth. Engineers the world over regarded the South Park's Gunnison division, between Como and Gunnison City, an engineering marvel, with the Alpine Tunnel a supreme triumph.<sup>1</sup>

Before the turn of the century a traveler could have bought a ticket for \$11.50 and ridden from Denver to Gunnison City via the Alpine Tunnel Route—a spectacular ride that twisted, curved and climbed through unparalleled scenery.<sup>2</sup>

More than half a century has passed since the tunnel was closed and the eager little twenty-ton, diamond-stacked engines pulled their tiny wooden coaches up old Chalk Creek, barking and toiling past

Heywood Springs (later named Mt. Princeton Hot Springs), St. Elmo, Romley, and Hancock before slipping into the hole in the mountain like gophers.

All trains, both eastbound and westbound, stopped at Alpine Tunnel Station, the highest railroad station in the United States. It was thrilling to leave the cars and revel in the inspiring beauty of the panorama of timberless peaks that stood all about, like sentinels, protecting and guarding this tiny outpost of civilization, so far away, so high, so lonely!

Following this unforgettable interlude, westbound trains would brave the breath-taking descent toward Missouri Gulch and upper Quartz Creek. About two miles downgrade from Alpine, at the Palisades, trains often stopped briefly. For here is one of the most wonderful views in all America. The sheer granite cliffs of the Palisades reach skyward like the organ of a great cathedral whose rhapsody is the plaintive whistle and the "huff, huff, huff" of the locomotives.

It is possible that both westbound and eastbound schedules were arranged to permit travelers to ride over the entire Gunnison division during daylight hours, as the following timetables seem to indicate.

Time Schedule No. 4, dated November 11, 1883, shows that the westbound "Day Express" No. 261 left Denver at 8:35 A.M., reached Como at 2:05 P.M., and arrived at Buena Vista at 5:05 P.M. After an over-night layover, train No. 287 pulled out of Buena Vista at 5:45 A.M., reached Alpine Tunnel at 9:05 A.M. and arrived at Gunnison at 11:50 A.M.

Eastbound passengers boarded train No. 288 at Gunnison at 3:05 P.M. and arrived at Alpine Tunnel at 6:00 P.M. and Buena Vista at 9:10 P.M. They could then take night train No. 264 which left Buena Vista at 9:32 P.M. with Denver arrival the following morning at 7:00 A.M. or they could lay over and take train No. 262 from Buena Vista at 9:20 A.M. for arrival in Denver at 6:00 o'clock that evening.

<sup>1</sup>The DSP&P system also included such fantastic areas of construction as the celebrated Georgetown Loop, Platte Canyon, and Boreas Pass. From Como the rails crossed the Continental Divide twice to get to Leadville. See map of entire system.

<sup>2</sup>In 1963 a traveler could board a bus in Denver at 2:00 P.M. and arrive in Gunnison, via Monarch Pass, at 8:35 that evening. Fare, \$8.91.



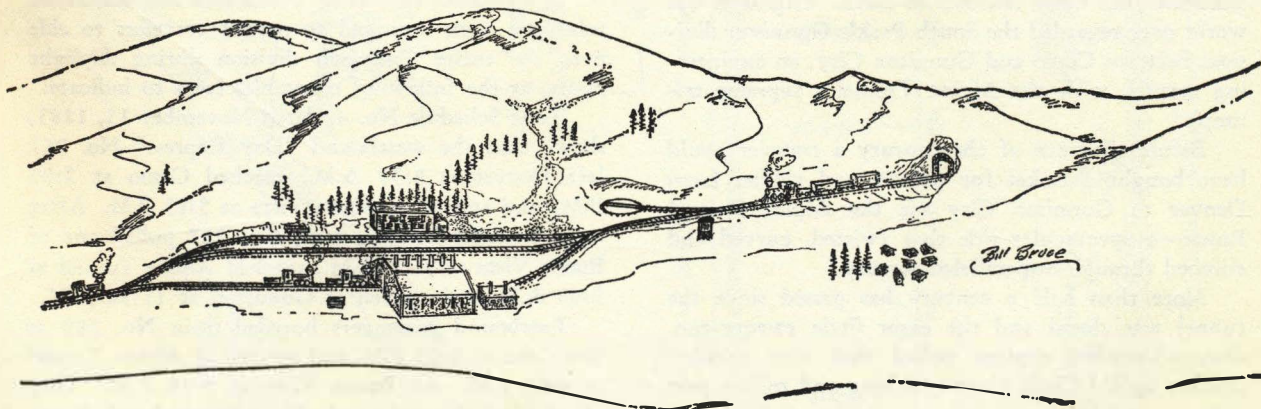
## Historic Alpine Tunnel

During its thirty-year life, Alpine bustled with activity. Train after train hauled thousands of tons of freight to supply the feverish mining activities of the Gunnison country. Tourists from all parts of the nation, vacationing in Colorado, included a trip through Alpine Tunnel in their plans. Frequent excursion trains were run through this wonderland of beauty. It was always high adventure to pass through Alpine Tunnel.

Each passage was fraught with danger. As there was no ventilating system, should a train stall and become inoperative, engine gasses could quickly snuff out life. Ever-present dampness created slippery sections of rail that could cause the locomotive's drivers to spin. Westbound engineers always checked at Hancock, three miles east of the tunnel, to be certain the sand was running "heavy." Eastbound engineers checked their trains at Alpine Tunnel station. Most trainmen took a bucket of water and a wad of cotton waste with them to reduce inhalation of smoke and gases. Because the tunnel was so expertly timbered, possible rock-falls were not considered a danger.

The Alpine Tunnel was conceived by men of vision, determination, and daring. It was constructed by men of extraordinary brawn and courage. It required eighteen months of the most arduous labor to dig, blast, and claw through the mountain. Much of this was done in the dead of winter. The workers endured paralyzing temperatures, gales of wind that knew no mercy, and blizzards of incredible fury—all this at an altitude where "just breathing to keep alive" was not easy, let alone undertaking such agonizing labors. In all the annals of railroad construction, it is doubtful if any group of men toiled harder and endured more misery than the unsung heroes of Alpine Tunnel!

Somewhere in the fading documents of the railroad may be a record of the last train to pass through Alpine Tunnel. No "sentimental journey" marked this last passage through the tunnel. Zed Scott, long-time fireman on the Colorado & Southern, says that the final train passed through Alpine Tunnel on November 10, 1910, and that his good friend Fritz Hefftner was the fireman. At the end the railroad simply discontinued service between Hancock and Pitkin.



Composite sketch of the Alpine station district. Not all of these buildings stood at the same time. The two-story frame boardinghouse was built in 1906, following the fire that destroyed the stone engine house and stone boardinghouse. At various periods, snow-sheds of different lengths were constructed. Alpine Tunnel pierces a long, low ridge between two unnamed mountains, forming a part of the Continental Divide.



## A Background

Building a Railroad through the  
Rockies was an Undertaking that  
Men of Vision had Proposed Long  
Before the Building of the Alpine Tunnel . . .

Following the reports of the Lewis & Clark Expedition on the lands acquired by the Louisiana Purchase, statesmen took a keen interest in the problems of settlement and development of this great and potentially rich territory.

Obviously, a practical means of transportation was the first and overriding consideration. In 1819 Robert Mills of Virginia made to the Congress the first suggestion of a "rail way" linking the Atlantic and Pacific coasts.

America's great pathfinder, John Charles Fremont, in three expeditions between 1842 and 1848, also brought back a wealth of information. His third expedition culminated in the conquest of California. The United States now owned such vast lands as to dazzle the most progressive statesmen, and it became soberly clear that, if we were to hold these domains, they must be settled and transportation provided.

Three routes for a transcontinental railroad to California were considered: the Southern, along the 36th parallel into Southern California; the Northern, through Wyoming; and the Central, directly through the Colorado Rockies. Among the many strong supporters for the Central route was the great expansionist senator from Missouri, Thomas Hart Benton.

Using the information collected by Fremont on his earlier expeditions, Senator Benton was the most vociferous among the many who were convinced that the most strategic location for a railroad was between the 38th and 39th parallels. (Alpine Tunnel was located at exactly 38° 39' North!)

In 1848 Senator Benton promoted Fremont's Fourth Expedition "to complete and connect the surveys of his previous expeditions and to examine a central route for a transcontinental railroad near the thirty-eighth and thirty-ninth parallels."

To determine whether such a route would be practical in both winter and summer, the Fourth Expedition set off across the Rockies in late November. Fremont's "Fourth" met defeat and disaster on Christmas Day in the La Garita Mountains, a few miles west and north of the present city of Del Norte,

and only about 60 airline miles from the future Alpine Tunnel!

Despite Fremont's failure, interest in the Central Route continued and, as part of the Pacific Railroad Surveys (authorized by Congress), Captain John Gunnison was sent to explore "the route near the thirty-eighth and thirty-ninth parallels."<sup>1</sup>

Captain Gunnison took his expedition into the San Luis Valley, in 1853, and crossed the Continental Divide at Cochetopa Pass, entering and discovering the valley and the river that now bear his name. In his passage west, Gunnison came within about 20 airline miles of the future site of Alpine Tunnel, and he traversed part of the future route of the Denver South Park and Pacific R.R. along Tomichi Creek.

The first actual survey for the transcontinental railroad route through Colorado was made in 1861 at the insistence of William Gilpin, first governor of Colorado Territory, who envisioned a world-wide railroad, linking Paris with New York via the Bering Straits, Alaska, and Canada, and passing through Colorado. He said, "Our Territory will be bisected, east and west, by the grandest work of all time; constructed to draw, to and fro, through the heart of the American Union, the travel and commerce of all nations and all continents of the world."<sup>2</sup>

This was a large order. To secure its fulfillment Governor Gilpin undertook the survey which was designed to prove to the skeptical the logic of his contention. Out of these surveys, continued intermittently until after passage of the Railroad Act of 1862, emerged one significant fact: a conviction that the Platte Valley was destined to be the line upon which the Pacific Railroad would be built.

<sup>1</sup>U.S. War Department Reports of Explorations and Surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean, Vol. 2 Washington 1855.

<sup>2</sup>Council Journal, Colorado Territorial Legislature. 1st Session (1862).

## Prior to 1880

The undersigned . . . do hereby agree and declare their intention . . . of constructing and operating a single or double track narrow gauge railroad and telegraph line. . . .

Articles of Association of the  
Denver South Park and Pacific  
Railroad Company, June 14, 1873.

Using Gilpin's surveys, the Platte Valley (or Platte Canon as it is more generally known) was the route chosen by Governor John Evans and his associates when the Denver South Park and Pacific Railroad Company was organized. John Evans succeeded Gilpin and was Colorado's second territorial governor (1862-65).

In the beginning the builders of the South Park never contemplated extending the rails of the line into the Gunnison country. The original Articles of Association declared intention of proceeding into South Park via Platte Canon, through Trout Creek Pass to the Arkansas River, and from there to Salida, through Poncha Pass and ". . . across the San Luis Valley to or near the town of Del Norte and thence by the most feasible route to the San Juan mining districts . . . to be extended thence to the Pacific Ocean." The Articles also declared ". . . to the head of the Arkansas Valley in Lake County." The South Park thus had every legal right to extend their rails up the Arkansas River to the Leadville district. Signers of the "Articles of Association" recorded in the Territory of Colorado, County of Arapahoe on the 14th day of June, A. D. 1873, were S. H. Elbert, Charles B. Kountze, David H. Moffat, Jr., Bella M. Hughes, Henry Crow, John Evans, and John Hughes.

The Denver & Rio Grande Railroad had introduced narrow gauge construction to Colorado two years before Governor John Evans had filed the Articles of Association for the South Park. The practicability of the three-foot gauge had been amply proved during these two years. It was decided that the South Park would also use the three-foot gauge. As opposed to the standard gauge of four feet, eight and a half inches, three important advantages were realized: a very decided saving in cost of material and rolling stock could be made; steeper grades could

be conquered; sharper curves could be negotiated—all factors of prime importance in mountain railroad operations.

By June, 1874, the line was humming with activity. Seemingly difficult obstacles were brushed aside. Track was laid ahead of schedule, and the grading crews were hard pressed to keep ahead of the track gang. Considerable freight in lumber products, coal, and stone brought needed and welcome revenue to the line. So great was the interest in Denver that officials established regular passenger excursions. These brought additional revenue and stimulated interest in the new railroad.

Rugged Platte Canon echoed from the blasting. Fills were made, trestles built, and the little forty-pound rails advanced without pause. Colonel Leonard H. Eicholtz, who had proved himself one of the country's great engineers in locating and building the grades for the Union Pacific through Wyoming and over Sherman Hill, was chief engineer for the South Park. His inspired leadership, sound solutions to problems, and tireless determination pushed the work ever forward.

Suddenly a new and compelling reason for quick completion of the husky little railroad appeared. As the end-of-track advanced, the South Park found itself hauling huge amounts of freight consigned to the Leadville silver mining district.

From initial placer discoveries in California Gulch, which had brought ten thousand people into the area, mining operations took a dramatic turn with the discovery of silver. Placer mining gave way to lode mining, and overnight Leadville became the world's greatest silver producer. Shipments of mining machinery and supplies taxed the facilities of the South



## Prior to 1880

Park. The Denver South Park and Pacific R.R. found itself in the amazing position not only of paying its own construction costs but also of making a profit over and above!

The rails were pushed over Kenosha Pass and into beautiful South Park, from which the railroad had taken its name. Grading problems almost disappeared as the rails surged across South Park's flat terrain, through the community of Jefferson and into the railroad town of Como.

During 1879 Jay Gould, master of financial intrigue, entered the railroad situation in Colorado. Gould had successfully merged the mighty Union Pacific and the Kansas Pacific roads and now threatened the Atchison, Topeka and Santa Fe. To carry out his devious plans, he obtained control of General Palmer's Rio Grande through an exchange of stock for Rio Grande trust certificates. For months he had also endeavored to gain control of the South Park, which he accomplished in late 1879.

Exerting his influence on both the Rio Grande and the South Park, Gould then instituted the famous "Joint Operating Agreement" of October 1, 1879, which provided that—" . . . for the purpose of harmony and mutual profit . . ."—the Rio Grande would lay tracks from Buena Vista into Leadville and that the South Park would share equal traffic rights. The South Park was given rights to build into the Gunnison country via Chalk Creek, with similar equal traffic rights allotted to the Rio Grande, both subject to suitable stipulated conditions. Nothing in the agreement forbade the Rio Grande from building into Gunnison via some other route.

On November 15, 1880, Jay Gould succeeded in gaining absolute control of the South Park by paying \$2,299,800 for the railroad's stock. The husky little railroad now became a secondary feeder line to Gould's Union Pacific and was re-named "Union Pacific Railway (Colorado Division) Denver, South Park & Pacific R. R. and Branches." Governor John Evans agreed to stay on as president of the road.

As a result of the Joint Operating Agreement, the South Park suddenly found itself abandoning all original plans to build into the San Juan regions and the Leadville district. Instead it found itself headed up rugged Chalk Creek directly into the massive Saguache Range of the Continental Divide. No railroad had yet conquered the Continental Divide, but, as a result of the Joint Operating Agreement, the South Park was assigned that task.

During its life, the ownership and management

of the South Park were involved and confusing. Briefly, the road started life in 1873 as the Denver South Park and Pacific Railroad Company. Control of the line, however, passed to Jay Gould just six years later, and thereby indirectly to the Union Pacific Railway.

On July 17, 1889, through bankruptcy, the operating title was changed to The Denver, Leadville and Gunnison Railway Company, but remained under control of the Union Pacific.

On December 28, 1898, the entire line was acquired by the newly organized Colorado & Southern Railway Company which operated it until its abandonment.

It is important that the reader bear in mind that during its life the South Park operated under *four* names:

1. Denver South Park and Pacific Railroad Company.
2. Union Pacific Railway, Colorado Division.
3. Denver, Leadville and Gunnison Railway Company.
4. The Colorado & Southern Railway Company.

Speaking of Jay Gould, in his *Life of Governor Evans*, E. C. McMechen said, "He was a speculator, a manipulator of stocks, an industrial gambler on a glittering scale; hence the best economic interests of a country in which he operated were not always served, but on occasion were sacrificed in the fascinating game of high finance. Future events proved this to be true in the case of the South Park. He was nursing a plan to parallel the Union Pacific with a line through the mountains, which he was ready to execute unless bought out. The Union Pacific became alarmed, and in 1880 bought the Gould interest in the Kansas Pacific and Denver, South Park and Pacific, giving Union Pacific stock, share for share, in exchange for stock in the newly acquired lines."

Prior to 1880, Governor Evans had made surveys up Chalk Creek. Mineral discoveries in the Pitkin, Tin Cup, and Gunnison country gave every promise that this would be a development equal to that in Leadville, if not surpassing it. It was desirable that the rails reach the Gunnison country as quickly as possible.

Reports from the engineers showed the crossing of the Continental Divide would be a job of appalling proportions. Towering at the west end of Chalk Creek was the mighty Saguache Range of the Continental Divide in all its brutal beauty. Even so, no one fully understood or visualized the monumental problems that were to come!



## Finding the Pass

"The finding of a pass over to the Elk Mountains  
... is of the utmost importance."

—Governor John Evans to Leonard H. Eicholtz

The drama of finding a suitable passage over the main range is vividly demonstrated in a letter written by Governor Evans to Leonard H. Eicholtz on May 20, 1879, in which he says in part, "The finding of a pass over to the Elk Mountains via Chalk Creek, Cottonwood, or Marshall Pass as soon as possible for our need is of the utmost importance to my negotiations [as] you know. Don't think your observations without barometer or cord will do me any good. If anything prevents you from making thorough reports, such as made on Poncha Pass, don't fail to send me word in time to get Major Evans [no kin to Governor Evans] to send someone else to do it."<sup>1</sup> Doubtless the "negotiations" mentioned are closely tied in with Eicholtz's entry in his personal journals just seven days later, on May 27, 1879, when he wrote, "Started at 7:00 a.m. for end-of-track with Jay Gould, Dillon, Russel Sage, Gen. Dodge, O. H. H. Clark, Capt. Baker, Fred Ames, Gov. Evans and Fisher." Railroad history was in the making.

At this critical period of choosing the route for the Gunnison extension, although Major Evans<sup>2</sup> now held the position of chief engineer, Leonard H. Eicholtz, who had been chief engineer while the road was building over Kenosha and into South Park, did the location work. In his journals, Eicholtz stated, on April 26, 1879, "Moved camp today from Helena to Brown's Creek. Made two crossings of Chalk Creek and ran line within one-half mile of camp." Thus, Eicholtz surveyed the first actual line into Chalk Creek.

Louisa Ward Arps, in her book, *Chalk Creek*, says, "Judge Henry Altman, whose name the chosen pass bears, personally and at great risk, in early spring be-

fore the snow had disappeared, made exploration of several passes to Gunnison and reported to Major Evans, the engineer. The route decided upon was prospected by Captain Hall at the south fork of (Chalk) Creek."

More than eighty years later, there are still spirited discussions concerning the choice made by Governor Evans and his engineers. Unquestionably the Chalk Creek-Alpine-Quartz Creek route was second best, proved conclusively by the fact that the Rio Grande, in using Marshall Pass, pushed their rails into Gunnison a full year ahead of the South Park. Unlike many historical arguments this one could be settled once and for all if anyone wished to have surveys made over the various passes, but this would be nonsensical. It does remain the privilege, however, of the present generation to "second guess."

The author has crossed and recrossed every pass in the vicinity, so from a layman's standpoint, let's examine the several possible routes.

Cottonwood Pass, recently rebuilt and graded for highway travel, runs almost directly west from Buena Vista, taking the traveler to the town of Tin Cup, Taylor Park, and down the Taylor River to Gunnison. Cottonwood is now the highest automobile highway pass in Colorado, reaching an altitude of 12,126 feet. There can be little question here. Cottonwood is too steep and too high. In the precipitous Cottonwood Canyon, there is simply no room for a railroad to twist and loop to gain altitude. Cottonwood could never be seriously regarded; there are no records to show that the South Park engineers did consider it.

About eight air-line miles south of Cottonwood is Tin Cup Pass. This colorful pass is reached by ascending the north fork of Chalk Creek from St. Elmo. To the untrained eye the eastern approach to Tin Cup would seem to present few problems for constructing a railroad grade. By the present road it is about six miles from St. Elmo to the top of Tin

<sup>1</sup>Gov. John Evans papers Division of State Archives and Public Records, State of Colorado.

<sup>2</sup>"Major Evans was one of the most celebrated of the civil engineers who made railway transportation in the Rockies and across them possible. He surveyed the line of the Union Pacific from Cheyenne to Rawlins, which embraces the climb over Sherman Hill." *Denver Republican*, December 27, 1887.

## Finding the Pass

Cup Pass with a rise in elevation of 2,142 feet. The altitude of Tin Cup Pass is 12,154 feet. Eicholtz discarded this route by writing simply, on June 7, 1879, "Moved camp today to junction of north and south forks (site of St. Elmo). Williams and myself with Whipple started across the divide. Am not favorably impressed with route."

During the time the South Park was grading and building from Trout Creek Pass to St. Elmo, J. L. Sanderson ran a line of Concords and freighters from St. Elmo over Tin Cup into the Taylor Park country and on to Aspen. The road, known as the Chalk Creek and Elk Mountain Toll Road, was, in fact, the pioneer route to Aspen. Had the South Park's engineers elected to build over Tin Cup Pass they would have had construction access from this toll road.

The pass under which the Alpine Tunnel was built was first known as Altman Pass, elevation 11,940 feet. Following the completion of the tunnel, it was often called Alpine Pass. To avoid confusion, the author will use its original name. Altman Pass and Alpine Tunnel lie about four air-line miles south of Tin Cup Pass.

Less than a mile south of Altman Pass is Williams Pass, elevation 11,762 feet. Here the grades are exceedingly steep on both approaches. This was the route of the Alpine & South Park Toll Road. Westward from Hancock the old toll road proceeds along the slopes of Tunnel Gulch, parallel to and above the subsequent railroad grade, until it turns to cross the divide, one mountain removed from Altman Pass. On the west slopes the old toll road meets the railroad grade just above the Palisades, cutting across and descending steeply into upper Quartz Creek. Today, the Williams Pass road is strictly a Jeep trail and hazardous.

Hancock Pass is about two miles south of Williams. This pass, too, is for Jeep travel only. Even the most casual inspection proves its unsuitability for rail construction. The trip over Hancock is one of the truly great adventures in Colorado travel! From the eastern slopes the vast Continental Divide sweeps across the horizon like an impenetrable wall. The descent into Brittle Silver Basin on the west side is awesome.

Agate Pass (now called Monarch), about eight air-line miles south of Hancock Pass, is next, and it is obvious that this route was not suitable. Neither the Rio Grande nor the South Park ever considered Agate Pass with its altitude of 11,375 feet.

Seven miles southward is Marshall Pass. Since the Rio Grande has already proved the point about this

pass, there is no need for additional comment about its suitability.

As has already been noted, it was the original intent of the South Park to run their rails south from Nathrop to Arkansas City (Salida), then across Poncha Pass into the San Luis Valley, and on to the San Juans and the Pacific Coast. The engineers as well as Governor Evans were familiar with Marshall Pass, which leads off to the west from the Salida side of Poncha Pass to cross the divide.

Why, then, did not the South Park utilize Marshall Pass?

In the booklet, *Historical Sketches of Early Gunnison*, (published by the 1916 class of the Colorado State Normal School) is found:

The (South Park) company did not want to build around by Marshall Pass, over which the grade was as much as eight per cent; consequently a party of experienced engineers was sent out to seek a way over the mountains which should be shorter and better than Marshall. For an entire season a corps of men under the command of James A. Evans, chief engineer of the South Park, and his assistant, P. F. Barr, surveyed through passes on both sides of the range to find a suitable path for the road. Their labors resulted in the selection of Alpine (Altman) Pass, in the determination to tunnel the divide where it was impossible to get over it.

It has been said that the South Park's engineers were negligent or that they may have "sold out" to the Rio Grande in not urging the use of Marshall Pass. In the author's opinion this is not true. It is possible, if not probable, however, that the South Park engineers were misled by Otto Mears, who owned the toll road over Marshall at that time. Mears convinced the Evans forces that grades of as much as 8% would be required to lay rails over the pass. However, when approached by General Palmer, Mears quickly sold his toll road rights, and the Rio Grande located a way over Marshall Pass by which the maximum grade did not exceed 4%.

The following excerpts from the personal journals of Leonard H. Eicholtz, now among the archives of the University of Wyoming, give a graphic insight into the selection of the Chalk Creek route:

"May 19, 1879—Rode to near the summit of the South Fork of Chalk Creek—River falls about 50 feet per mile, then 150 feet in one-half mile, then about 125 feet per mile for 2½ miles to saw mills.



## Historic Alpine Tunnel

Then 150 feet per mile, then 75 feet per mile for 1½ miles, then 150 to 200 feet per mile to near the summit where it pitches down 300 feet per mile from Alpine to summit of South Fork about 11 miles.

"May 21, 1879—Williams and I with O'Neal for guide rode to summit of the South Fork of Chalk Creek. Got there at 7. Altitude 11,900. Met a prospector and went on with him down Quartz Creek to Quartzville [later named Pitkin], 10 miles. Altitude 9,100. The summit is higher than I expected and proves very unfavorable for getting down on Quartz Creek. Quartzville is a new settlement of a dozen cabins in a little park.

"June 1, 1879—Slept last nite with Colonel Puffer in . . . cabin. Snow about 4 inches covering our trail down. Got a (horse) and started for the summit about 10 a.m. Got back to camp about 6 p.m. Not very favorably impressed with the route. Wrote a long letter to Governor Evans,

"June 2, 1879—Very cold last nite. Moved camp this a.m. to point about two miles below summit. Had to Cut out . . . for wagons nearly all the way. Proved very rough and in places very wet and boggy. Left part of our load . . . Weston did not get back tonite with rest of outfit. Two of our horses gone this a.m. Found stock on lower camp. Party got started for summit at 11 a.m. Took up line on south side of summit and ran ¾ of a mile today. Line is high on side of mountain 1,200 or 1,500 feet above Quartz Creek valley and running over two rock slides and snow banks. Do not regard this practical or safe at any reasonable cost.

"June 9, 1879—Moved camp up South Fork of Chalk about two miles and resurveyed line down the mountain as the best of the two routes" [It is probable that Colonel Eicholtz means that the South Fork was superior to the North Fork route over Tin Cup Pass.]

"June 30, 1879—In Denver all day at a meeting of the board this p.m. Was appointed engineer and superintendent of construction in place of James A. Evans, relieved. . . . Barr took charge as division engineer."

On September 29, 1879, Eicholtz reported that Jay Gould, at a meeting in Denver, requested a one-fourth interest in the South Park.

During the fleeting fall months, the corps of engineers, despite Eicholtz' misgivings, reached agreement on the feasibility of the South Fork of Chalk Creek and the construction of a tunnel under Altman Pass. Recommendations were made in great detail to the directors of the South Park, and it was determined that the rails would be laid to Hancock,<sup>3</sup> there to turn generally west up on the slopes of a gulch (later known as Tunnel Gulch) to the east side of Altman Pass. There a minimum bore for single track narrow gauge passage through the Continental Divide would be constructed.

Railroad tunnels were nothing new, of course. They had been driven before. Valuable experience had been gained in building the great Hoosac Tunnel as well as several tunnels in California. While engineers and railroad officials tried to be realistic about the problem and tried not to close their eyes to the difficulties, none dreamed of the staggering job ahead. If the rails could not be laid over the mountains, then the determined men of the South Park would poke a hole through the mountains! It was decided to tunnel under Altman Pass!

Under the most penetrating questioning, the engineers assured the road's directors that the tunnel could be completed in six months and would be ready when the rails reached the east portal.

Location and construction surveys and specifications<sup>4</sup> called for a bore of 1,771.7 feet in length. Altitudes would be, at east portal, 11,496 feet; at tunnel apex, 11,523 feet; at the west portal, 11,521 feet. This would be the first tunnel to pierce Colorado's massive Continental Divide. It would become the highest railroad tunnel in the world, at that date. Unknown to its builders, it would become, with the passage of time, the most dramatic stretch of railroad in North America . . . railroadiana that grows in the esteem and affection of countless rail fans and historians with each passing year.

<sup>3</sup>"It [Hancock] was located on a claim known as the 'Hancock Placer' which had been proved on by J. A. Evans, P. F. Barr, L. Dow, and S. E. Land, on July 21, 1880, which claim they deeded to the Hancock Town Company." Louisa Ward Arps in her book, *Chalk Creek, Colorado* (1940).

<sup>4</sup>Original, 1880, Construction and Location Maps from the Archives of the Colorado & Southern Railway Company.



# Construction of Alpine Tunnel

"No Man But a Tunnel Engineer Can Appreciate the Difficulties and Dangers of Tunnel Construction."

—Henry S. Drinker, E. M.

In his authoritative book, *Tunneling, Explosive Compounds and Rock Drills*.<sup>1</sup> Henry S. Drinker says:

It is not a question of calculating certain strains and allowing certain factors of safety, but a very vieing with the unknown powers of darkness, all the more to be feared because one can never know what a day's advance may bring forth.

The final weeks of 1879 were devoted to locating the tunnel portals and establishing a center line of the bore. This work, under the direction of Major James Evans, was perfection.

There was little choice in locating the west portal site. A maximum grade was established which brought the line to the face of the mountain. The elevation of this point was determined with infinite care. Multiple survey segments were then projected over Altman Pass.

These surveys brought the engineers across the saddle and down the slopes of a gulch, which was later named Tunnel Gulch. After meticulous checking, the point of entry for the east portal was established. The survey showed that the line could be graded up from Hancock to east portal and the ascending grade would not exceed the limiting 4% rise.

To enter the mountain the rails had to make a very sharp curve, which required that a portion of the tunnel be dug on a curve.

The *alinement* of a railroad consists of straight sections called tangents connected by circular curves. Circular curves are classed as simple, compound, and reversed. A simple curve, which is the class of the one at the east end of the tunnel, is a single circular arc connecting two tangents. The point at which the curve starts is called the P.C. (point of curvature) and the end of the curve the P.T. (point of tangency). The intersection of the tangents extended is called the P.I. (Point of intersection). The intersection angle at the P.I., which equals the central

angle of the curve, is called I. The important elements of a simple curve are the intersection angle I, radius R, degree of curve D, and length of curve L.

In railroad practice, the degree of curve has been adopted as the unit of sharpness. The degree of curve is defined as the central angle subtended by a chord of 100 feet.

For the curve at the east portal of the tunnel, the intersection angle was  $97^{\circ}18'$ , the radius was 240.49 feet, the degree of curve was  $24^{\circ}$ , and the length of the curve was 405.4 feet. Approximately 160 feet of the  $24^{\circ}$  curve was inside the tunnel and the remaining 245 feet of the curve was outside the tunnel.

Cribbing, constructed on the slopes of the gulch, supported and widened the entry right of way. The remaining 1,611 feet of the Alpine Tunnel was driven on a perfectly straight line.

After specifications were drawn up, bids were requested in this advertisement in the *Rocky Mountain News* of November 2 and 3, 1879.

## Notice to Railroad Contractors

Denver, South Park and Pacific Railroad Company.

President's Office

Denver, Colo., Oct. 30, 1879

Sealed Proposals will be received at this office until the 18th proximo for the construction of the tunnel about 1,600 feet long on the extension of the road of said company, from the Arkansas Valley to the Valley of the Gunnison, at Alpine Pass, head of Chalk Creek. The time at which the contractor will agree to complete the work will be an element of importance in the bids. Plans and specifications may be seen at this office for one week preceding the letting. The company reserves the right to reject any and all bids.

By authority of the board of trustees.

John Evans, President.

On November 27, 1879, Leonard H. Eicholtz wrote in his journal, "In Denver. Had meeting of railroad brass this a.m. regarding contract with

<sup>1</sup>John Wiley & Sons, New York, 1893.

## Historic Alpine Tunnel

Cummings & Co. for tunnel at Chalk Creek." On December 3, 1879, his journal stated, "Meeting of railroad board this p.m. Let tunnel contract to Cummings & Co." Work was to be started at once as the contract required that the work be completed in six months. In less than a month men and materials began arriving at the east portal. Some preliminary work was accomplished prior to January, 1880. On this date the rails of the South Park had not yet reached the Arkansas River, but the die had been cast and the irrevocable decision made: The range would be crossed and the railroad built to Gunnison!

The (Pueblo) *Colorado Chieftain* of January 9, 1880, said under the heading, "On to Gunnison:"

Contract awarded for the advance of the South Park. At a meeting of the directors of the South Park R.R. held last evening, the recommendations of the engineers relative to the award of contracts relative to the Gunnison extension were approved. The contracts for grading were awarded as follows: Philip Riley, sections five to seven inclusive; T. Van Gorder, sections twelve to sixteen, inclusive; and Samuel Hutchins, section seventeen and succeeding sections to the tunnel. The distance from Buena Vista to the tunnel is 35 miles. The grading for this distance is to be completed by the first of July, and at the same time, the tunnel, for which contracts were awarded sometime since, is to be finished. Work is now progressing at both sides of the range, about fifty men being engaged in driving the work. The tunnel will be 1,800 feet long, and the railroad at its mouth will be 11,500 feet above sea level, surpassing by over a thousand feet the height of track at Kenosha Hill, and being the highest railroad on the North American Continent. In addition to the grading contracts, tie contracts were awarded as follows: P. B. Buchanan & Co., 100,000; C. A. Montross & Co., 50,000; W. D. Odbert, 50,000; and Whittle Bros., 10,000. These are being distributed along the line of the railroad between Buena Vista and the Gunnison Valley and are more than sufficient to tie that part of the line already contracted for.

The South Park officials were so anxious to get their rails into the Gunnison country as quickly as possible that they were willing to undertake construction in the high altitudes at the most inopportune time of winter. They grossly underestimated the difficulties of construction under such adverse weather conditions.

- Neither the engineers nor officials of the construction company fully understood the nature of the mountain, the kind of material they had to remove, or the type of digging that confronted them. This proved to be an error of judgment (or lack of

knowledge) of monumental importance. Tunneling through a mountain or the shoulder of a mountain differs from boring through a pass between two mountains. The former is usually composed of solid rock, while the latter, by its very nature, consists of slide rock and decomposed granite.

Through eons of time the inexorable forces of nature constantly slough off the surfaces of the mountains. Pebble by pebble, rock by rock, slide by slide, the passes fill with rubble and slide rock, while the mountains become smaller. This rock becomes decomposed through the constant freeze-thaw cycles and the chemical action of water. It was the opinion of the staff that Alpine Tunnel would penetrate solid, self-supporting granite. Such an error is understandable as this was the first tunnel ever attempted through Colorado's Continental Divide and the first tunnel of such proportions to be undertaken in Colorado.

Work camps were constructed at both portals. Since they were digging from both ends, the quip, "What if the bores don't meet," was thrown at engineer Barr so often he countered with a stock answer, "That's easy. We will have two tunnels!" Old photographs show at least six or seven buildings near the west portal. No positive records can be found concerning quarters at the east portal, but references have been found naming three camps—Ragtop, Streeter's and Miller's.

- The first great problem facing the contractors was moving men, supplies, tools, and animals to the work areas. On the east side of the range an excellent road existed as far as Hancock, three miles below the east portal. Between Hancock and Romley an old prospector's burro trail wound up Tunnel Gulch. In gulches such as this, under the brow of the Continental Divide, snow accumulates and drifts to immense depths. The contractors put men to work plowing and shoveling until the jack trail was made passable for wagons. The location maps of 1880 show this road running below the railroad grade up to and past the headwaters of the tiny stream and then climbing and turning back to the tunnel's east portal.

On the west side of the range, the Alpine & South Park Toll Road threaded its way up the banks of Quartz Creek to a point which later became the Sherrod Loop of the railroad. Here it made a reverse turn and climbed over Williams Pass. This road, clearly visible in old photographs and easily



## Construction of Alpine Tunnel

found today, crossed the proposed railroad grade just above the Palisades.

These roads required improvement to handle the traffic necessary to supply the tunnel workers. In no time at all the Cummings Company spent huge sums of money. These expenditures, plus extraordinary labor costs and expenses at the tunnel site, brought Cummings financial difficulties.

First dirt was moved early in January, 1880. It was the fervent hope of the contractors that they would soon begin to recover some of the money already invested, when payments to them would be made according to the progress of the work. But this was not to be.

In the dead of winter temperatures fell to lows of 40° below zero. Blizzards howled with unrelenting fury; it seemed as if the mountain tops reached up to meet the storms face to face. Along the naked heights of the main range winter storms raged with remorseless intensity.

During February and March hopes still ran high that digging problems would ease, that the unruly, dangerous slide rock would give way to solid granite, that the progress might suddenly improve and the contract deadline be met.

Experienced hard-rock miners were brought over from Leadville. Power tools were agonizingly hauled to the tunnel only to be found unsuitable for work in the crumbling, decomposed granite. Single bit steel was found to be most effective, powered by the bone-tiring, human effort of single and double jacking. Great sections of loosened rock fell into the tunnel from the sides and top, necessitating the handling of additional rubble. Inch by inch, foot by foot, false timbering had to be erected, at great loss of time and great expense.

As winter gave way to spring, it became clear that Cummings & Co. was not capable of completing the work. Only 150 feet had been excavated. The first intimation of a change of contractors appears in the Eicholtz journal of May 15, 1880, when he simply said, "Negotiating contract for tunnel with Fitzgerald." On June 10, 1880, Eicholtz wrote, "Left Denver at 7 p.m. for tunnel to notify Cummings of Fitzgerald & Co. having taken the work." On July 10, Messrs. Cushing and Osborn came to Denver and on the following Monday, July 12, 1880, Eicholtz wrote, "Fitzgerald and Co. signed tunnel contract."

The proper name of the new firm was Fitzgerald,

Cushing & Osborn, with headquarters in Lincoln, Nebraska. John Fitzgerald, a graduate engineer, was a man of tremendous physical and business stature, with a wide and successful background in canal and railroad construction. The Lincoln & Northwestern, Brownville & Ft. Kearney, Atchison & Nebraska, and sections of the Burlington & Missouri were projected and carried out by John Fitzgerald. He had been engaged in the construction of the Erie Canal. He projected and built the line from Nemaha City to Tecumseh and another in Iowa, from Humeston to Shenandoah, jointly for the Chicago, Burlington & Quincy and the Wabash. The South Park officials had now turned the job over to the "champ!"

William Osborn, a partner, moved to Hancock, bringing his family with him. Also engaged were James Hocking and George Tripp, men who had gained experience and knowledge during the construction of the Hoosac Tunnel. With such skill and experience, John Fitzgerald felt certain that the work could be completed before another winter set in.

Although it cannot be positively documented, there is reason to believe the contractors adopted the German or "Centre-Core" system, which had been used effectively in several European tunnels and, more recently, in the famed Hoosac Tunnel.

The Centre-Core system (see pp. 36 and 46) consists of running a pilot bore ahead, at the extreme apex of the bore. Then, with two faces to work, the floor of the pilot bore is lowered to "shelf" level, enabling men to stand upright at their work. Next, both sides are removed, to full tunnel width and down to floor level, leaving a huge core of rock, bench high, in the center of the tunnel. The core provides a sturdy, unfailing support for false timbering and is much easier to remove because as many as five surfaces can be worked at once, if cross cuts are made. The pilot bore usually ran from eight to twelve feet ahead of the shelf. Often the Centre-Core remained in place while other work progressed several hundred feet ahead of it. Permanent timbering was emplaced before the removal of the core.

At about the time the change of contractors was made, the South Park was dealt another blow. General Palmer, having regained control of his railroad, canceled the Joint Trackage Agreement and started work running Rio Grande rails from Salida, via



## Historic Alpine Tunnel

Mears Junction, over Marshall Pass headed for Gunnison.

The labor market in Colorado became paralyzed as both railroads sought workmen. As the winter months of 1880 approached, the South Park found itself deeply in trouble. Only the most hardy constitutions could withstand the rigors of Alpine, let alone deliver a day's work at 11,500 feet. Men left their jobs and slipped away to lower altitudes and more comfortable living. Others went over to Marshall Pass to work for the Rio Grande, as Marshall was some 1,500 feet lower than Alpine.

The labor problem became so acute and the tales of the terrors of Alpine so widely known that the Union Pacific was forced to recruit labor from the East. This was done by advertising in the Eastern newspapers, offering free transportation to Colorado and steady work at good wages.

Old newspaper stories relate that some ten thousand men worked for varying periods of time on the Alpine Tunnel. Actual working requirements called for a steady crew of 350 to 450 men. Considering the times, wages paid at Alpine were good. Laborers received \$3.50 per day; hard rock and explosives men, \$5.00 per day.

*The Gunnison Review*, observing the herculean efforts of the South Park to conquer the range, had this to say in its issue of July 13, 1880:

From what we have seen in the past few days up Quartz Creek, we are satisfied the railway company means business, for an immense amount of ties are being cut and piled up, one firm alone having a contract for cutting 180,000. That the road is coming, there can be no doubt, and it will reach Gunnison as soon as demands for it will justify. Work is progressing rapidly on the new stone passenger depot here at the corner of New York Avenue and Ninth Street and the grade stakes are set nearly the whole length of the route. Everything is progressing satisfactorily and the time for us to wait will seem short until the final completion of the road and the advent of the iron horse into our city.

The Fitzgerald Company now worked crews around the clock. Consulting geologists brought to Alpine advised the contractors that little, if any, self-supporting granite would be encountered and that the entire pass was filled with slide rock and decomposed granite, showing conclusively that at one time this was a very low pass, as the draws or drainage on either side of the mountains prove. Three streams of water, from five to seven inches in diameter, were cut and it was with great difficulty

this loose, wet, and muddy formation was kept back. It would be necessary to timber every foot of the bore. For timbering the engineers chose California redwood.

The requirements which influence an engineer's choice of species for timber tunnel lining include strength, durability, resistance to decay, extent of fire hazard, availability, and cost.

Probably the characteristic which was given the greatest consideration at Alpine was the durability of the redwood heartwood. Redwood is a non-resinous wood which ignites slowly, does not readily support combustion, and has a low rate of flame-spread. With no resinous matter to form gas when heated, it has a tendency to develop a protective surface-char in timber sizes. This greatly reduces the incidence and severity of a fire. Since South Park engines would have to work steam up the grade to the tunnel apex, the danger of fire would always be present. Redwood greatly reduced that hazard.

"Butts" or "sinkers" were specified by the Alpine engineers. The well-matured heartwood of the base of the redwood is so solid as to sink in water—hence designated as "sinkers" and also as "butts."

Redwood had been used extensively for tunnel lining prior to Alpine. In 1875 and 1876 the Southern Pacific constructed twenty tunnels between Los Angeles and San Francisco, ranging up to 6,966 feet in length with an aggregate length of 17,980 feet. All but four of these tunnels were timbered with redwood for their complete length. The engineers at Alpine were thoroughly familiar with these tunnels.

There was no problem of availability at the time of Alpine and there had been plenty of experience in the manufacture of tunnel timbers for use by the Southern Pacific. Shipment via the Central Pacific and the parent Union Pacific permitted delivery by rail to Buena Vista at a nominal cost. The tunnel timbers were then freighted by wagon up Chalk Creek and Tunnel Gulch, with perhaps half of the total being further transported by wagon over the top of the pass to the west portal. As the rails advanced up Chalk Creek, this haul grew shorter.

*Engineering News* of January, 1882, reported that nearly 500,000 feet of redwood were used in the tunnel, laid down at the site at a cost of between \$80.00 to \$110.00 per thousand. Probably the largest portion of this cost was the expensive hauling



## Construction of Alpine Tunnel

from the rail heads. At no time did the engineers seriously consider using native timbers in the tunnel, except as false timbering. *Engineering News* also reported that 1,500,000 feet of false timbering were required.

The wisdom of using "butt-sinker" redwood is proved by the fact that after more than eight decades practically all of Alpine Tunnel still stands and there was never a fire in the bore!

The summer and fall of 1880 slipped away, and with the first snows of winter the tunnel was still far from completed. In fact, by November the tunnel was less than one-fourth finished. It was decided that construction work would continue, regardless of the approaching winter.

Regarding such work on the main range in winter, *Historical Sketches of Early Gunnison*, said:

The snow piled so high that merely clearing the way so that the men could get to work cost \$75.00 per day. The western approach was entirely blocked. Often laborers had to cut shafts to get down to their work. At times, when it was impossible for them to do anything outside, miners were allowed to work on the heading and shove back the material twenty feet beyond the portal. This was done to keep the men occupied and to prevent them from leaving, even though it was necessary for them to handle the material three times instead of once, and the expense was tripled. None but the experienced old-timers would or could stand the battle against the elements. During some of the heavy storms, the men had to go in gangs from work to their cabins that they might not be lost in the snow, and often when they reached a place of shelter, the clothes they wore were frozen.

All through the bitter winter of 1880-81 the workmen toiled doggedly. At times the work force dwindled to only a few dedicated men. It has been aptly said that the tunnel was handmade of courage, determination, and fortitude. Problems of transporting supplies eased a bit each week, as the rails slowly crawled up Chalk Creek. Contact between the portals was kept only with the greatest difficulty, by horseback, by wagon, or by walking over Alpine Pass. The actual distance over the pass was little more than half a mile, but on top the winds blew with such merciless brutality that frequently men could not keep their seats in the saddle.

As spring of 1881 approached, the *Gunnison Review* on April 16, said, in part:

Only 570 feet of cutting to penetrate the backbone of the continent remains. The amount of work daily accomplished is about ten feet, but we are assured that there is a large

amount of heavy work to do at both east and west of the tunnel. Still additional workmen are almost daily being employed and it is possible that the grading of the entire line will be simultaneously completed with the tunnel.

On June 18, 1881, the *Gunnison Review* said:

Work progresses slowly on the great bore of the backbone of the continent, and we learn that the contractor has about 250 feet to cut yet before seeing daylight on the Pacific slope. The length of time now required to complete the great work is estimated to be one month, but considering the progress heretofore made we judge it will take in the neighborhood of three months to complete it. Nearly all the grading and rock cutting on either side of the tunnel is done and ties [are] cut for the entire line.

The reporter was wrong; it didn't take three months. On July 30, 1881, the *Gunnison Review* carried this historic story:

On Tuesday morning last (July 26th) the contractors on the Alpine Tunnel of the DSP&P Railroad saw daylight for the first time, having pierced through the summit of the Continental Divide. The length of the tunnel is about 1,800 feet, on which work has been progressing uninterruptedly for the past two years. It is said there is perhaps a couple of weeks' work yet to do to complete all the great work, after which some of the liveliest railway building ever known in the state will be done, until the cars reach this city. A large force of men with teams is now employed here grading the depot ground, side tracks, wye, etc., along the recently chosen route on San Juan Ave.

It was 8:30 in the morning. Excitement ran high. History had been made! The crew on the west side had breached the heading. Workmen tore at the rock with picks and bars to enlarge the initial opening. Good natured banter was exchanged between heading crews, as described in the *Gunnison Review*:

A contest between the two gangs of workmen as to which should first go through the opening was decided by allowing a little child of Mr. Osborn's, the superintendent, to be handed through; then Mrs. Osborn and another lady, and the chief engineer, P. F. Barr, passed through the opening on payment of ten dollars (which was expended for beer by the boys) and the tunnel became a thoroughfare for pedestrians. The bench [core] which is nearly six hundred feet long and about ten feet high, will be rapidly taken down and the tunnel ready for iron in about six weeks. We understand that the company proposes building a large roundhouse at the mouth of the tunnel containing a huge water tank, turntable, shop, etc., to be heated by immense stoves. Grading from Hancock to the tunnel will probably be finished by the time the tunnel is ready.



## Historic Alpine Tunnel

On "Tunnel Day," July 26, the rails of the South Park were just entering Hancock, three miles from the east portal. Also by "Tunnel Day," the rails of the Rio Grande, creeping down the west side of Marshall Pass, had reached Sargents. The South Park had not yet lost the race for Gunnison. The *Pueblo Chieftain*, on July 28, reported optimistically, "The [South Park] company claims they will run trains into Gunnison City within six weeks."

Not so! In following the dramatic story of the South Park and the monumental achievement of Alpine Tunnel, there is one thing in which the South Park [Union Pacific] excelled above everything else—poor public relations! The few statements given to newspapers often were misleading, incomplete, and just plain bad.

The rails were rapidly pushed up Tunnel Gulch and iron reached the east portal on August 11, 1881, but stopped there. To hasten construction, rails were shipped to east portal and taken through the tunnel on wagons. So, much of the grade toward the Palisades and Quartz Creek was railed before Alpine Tunnel was completed.

On Saturday, August 6, the rails of the Rio Grande crossed Main Street in Gunnison. The race for Gunnison was over; the Rio Grande had won. This was bitter news to everyone connected with the South Park, but the future is a long time. The South Park was determined to win the battle for business. However, it does appear that the Rio Grande's victory took a lot of the spirit out of the South Park. For in the *Gunnison Daily Record* of October 31, 1881, it was reported:

There was an accident in the Alpine Tunnel by which the caving in of a portion of the earth had delayed the completion of this stupendous work. All efforts to get the facts in regard to the cave-in have been in vain. Some said the accident would require two or three weeks' additional labor to remove the earth; others said it would be useless to attempt to get through for two months, and the Tin Cup Record stated in its last issue that all attempts to finish the work this winter had now been abandoned. We have just learned from reliable parties who are connected with the South Park road and who have been up and made an examination of the work that the accident really amounted to nothing and that the tunnel will be completed in a few weeks and the cars running into Gunnison inside six weeks.

Less than three weeks later, on November 19,

1881, the *Gunnison Review* stated, "Work on Line Abandoned Until Spring."

. . . it is now definitely announced that work has been suspended on the Gunnison extension of the Denver & South Park railroad for the winter. There is a large amount of work yet to be done in the tunnel and a force will be kept employed in there all winter . . .

All the grading has been done on the road between the tunnel and Ruby Camp and a large number of ties bedded between there and Gunnison. It is not announced what time the road will reach Gunnison, but it is said that it will be completed and the cars running in here early in the Spring.

This was either wishful thinking or poor public relations on the part of the South Park, for it was April of 1882 before any more serious work was done, although the tunnel was finally completed and the first engine passed through in December of 1881.

Engineer Barr had elected to use the American Block-Timber-Arching system at Alpine. Henry S. Drinker describes this system as follows:

Block-timbering is cross, or rafter-timbering where, instead of three pieces, consisting of a cap and two legs, the pieces are multiplied to five or seven or nine voussoirs.

The method of timbering Alpine has always been of unusual interest to the engineer and layman alike. In the eighty-two years since completion, fifty-two of which saw no maintenance at all, the timbering has failed in only three places. At this writing, there is a large and complete blockage close to the east portal because of a huge cave-in. And it so happens that this major cave-in occurred in that portion of the bore built and timbered by the first contractors. Two other small breaks have occurred, neither of which blocks passage through the tunnel. This is a great tribute to the engineers and workmen alike.

Alpine's arch was made in a semi-circle of seven segments. The joints were cut with an ordinary cross-cut saw. Outside the portals, carpenters constructed a form, full size. Then the pieces of redwood were cut-to-pattern. Each assembly constituted a "set" which was then taken into the tunnel and erected. (See page 32.)

Commenting further, Drinker said:

The sill is placed in its proper position and made perfectly secure; the posts, or sides are raised and a doubled three-inch plank is placed on cleats spiked about six inches or so below the springing line of the arch. This plank is called a spreader, as it keeps the posts the right distance



## Construction of Alpine Tunnel

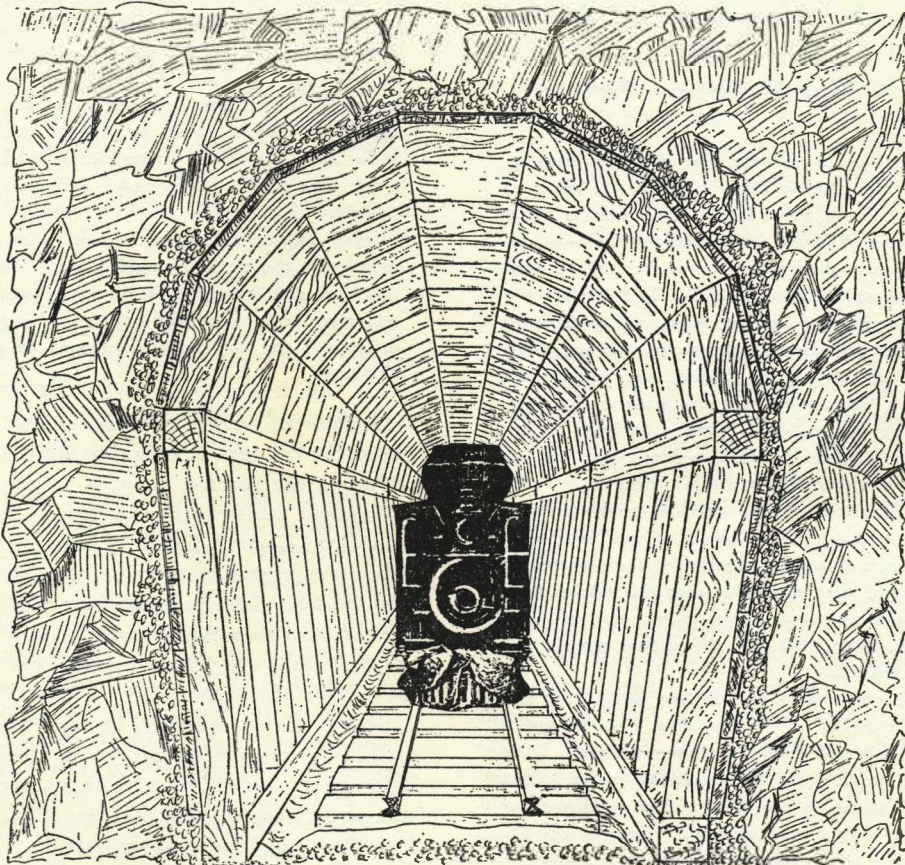
apart until the arch can be placed in position. The posts are then stayed by nailing a 3-inch by 12-inch plank, first on the preceding set of timbers, and then on the post to be stayed, after it has been properly plumbed. A staging is made on the spreaders and the pieces forming the arch placed upon it. These are then placed in position one at a time and nailed together at the joints merely to keep them from slipping. A plumb line is then dropped from the center line in the top of the arch to a center line in the sill.

Drinker continues,

After the set has been adjusted to its proper position, 3-inch by 12-inch planks, cut to fit, are spiked firmly on both sides of the arch, breaking joints with the segments. After these cants are spiked on, the men commence put-

ting on the lagging. After the lagging has been properly spiked, the space between it and the top and sides of the excavation is filled and made perfectly tight. Timbering [must be] so disposed that the stronger the pressure becomes, the more closely the timbers bind, so that, up to the breaking point, the increase in pressure only serves to more solidly connect the parts. The whole timbering should be kept under equal strain. Hollow spaces outside of the section on one side, thus taking off the pressure on that side while the opposite side is still heavy, may be disastrous, if they are not filled. Above all things, timbering seeks to avoid rather than draw pressure, to meet it at once and check the tendency to fall or swell, as any movement of any kind, if not promptly checked, grows in increasing ratio.

There can be no doubt that every detail of good engineering was observed in the timbering of Alpine Tunnel.



Balloon stacked South Park locomotive has been superimposed on this idealized sketch of Alpine Tunnel. In actual fact, the height and width of various sections of the tunnel varied greatly. Sketch depicts how voids were filled back of the lagging so pressures would be equalized on all portions of the timbering.



## Grading into Quartz

"These Mountain Fastnesses for Which  
the Builder Has Struggled, Have been  
Dedicated to Civilization."

—*Historical Sketches of Early Gunnison.*

During the long, weary months of tunneling, other crews were grading the road from the west portal past the great cliffs of the Palisades, around the Sherrod Loop, and down Quartz Creek to Pitkin. No description of this work can be more dramatic than this story which appeared in the *Pitkin Independent* on April 2, 1881, headed:

### Progress of the Work on the South Park Grade Above Pitkin.

Little do our citizens, except the few who have been up there, know of the progress being made on the grade of the South Park railroad above Pitkin. The work is under the personal charge of Mr. J. J. Cummings,<sup>1</sup> the boss contractor, who is doing good work with a force of 80 men. The camp is located about two and a half miles above Pitkin. An invitation had been extended, and on Tuesday afternoon contractor Cummings placed his team and sleigh at the disposal of Mr. J. H. Clemes, the banker and the editor of this paper, and a visit was made to the camp, and the work on the grade was given a thorough inspection, through the kindness of Mr. Cummings, who was not sparing of time or trouble to escort his visitors.

A tour of the entire section, which is known as summit section, or section 45, and is over a mile in length, was made, and we were agreeably surprised at the progress. It is the heaviest and most expensive grade this side of Kenosha Hill, so the contractor informed us, and will cost when completed, about \$180,000. About four months will be required to finish it.

The grade contains two cuts, the first being 1,100 feet in length and from 25 to 45 feet deep. The second is 500 feet in length and from 15 to 54 feet deep. They are separated by a sixty-foot fill containing about 34,000 cubic yards. The gap in the fill is being rapidly closed up, and about ten days more will find it completed. The two dumps of the fill are as substantial and as masterly a piece of work as can be seen on any railroad grade in Colorado. The cuts are through the hardest kind of rock, which has been blasted out by black powder. Eighty

men are employed in the work, with 16 dump carts and eight double teams.

The first of December Mr. Cummings commenced work on this grade with a force of about thirty men and has gradually increased this force up to the present number.

The wages paid are: rock men \$2.75 per day; shovellers \$2.50 per day; teamsters \$40.00 per month, less \$5.00 per week for their board, which is deducted from the wages of all laborers. The present force of labor is being added to, as rapidly as men can be secured, and Mr. Cummings informed us that he could employ 500 more men as soon as he could get them as more camps will be established in a few days on the other grades, and the same wages will be paid.

The cost to the railroad company on this grade last month was about ten thousand dollars. This month fifteen thousand, and it is thought twenty thousand dollars will not more than cover the expenses of next month. Tomorrow is pay day and the amount to be paid is over \$1,500.00

Undoubtedly the three-mile section of railway between the curve as it left tiny Alpine Valley, to and including the Sherrod Loop, is the most fantastic bit of railroad construction in North America! A descent into Quartz Creek Valley within this three-mile stretch was imperative, yet grades had to be held to 4%. In accomplishing this, the rails clung precariously to a narrow shelf, curving in and out as they followed the contours of the mountains that form the main range.

Sixteen times, cribbing, in the form of fitted-rock walls, was erected to provide a shelf for the rails. These great rock walls were about two feet in thickness and ranged in length from 29 feet to 550 feet. Heights ranged from eleven feet to thirty-three feet. In addition there were five stone retaining walls.

Most spectacular is the great rock wall at the Palisades. On the sheer cliffs of this towering granite formation there was scarcely a place for a bird to

<sup>1</sup> Evidence is lacking that this was the same Cummings that undertook the initial tunnel contract, although it is highly possible.



## Grading into Quartz

perch, yet the engineers had to thread their rails across these cliffs, a deed which they accomplished ingeniously.

The full magnitude of this stupendous achievement cannot be appreciated until viewed from the old wagon road along Quartz Creek, above Trimble Cabin. This view utterly defies description.

At the foot of the Palisades wound the Alpine & South Park Toll Road as it made its way toward Williams Pass. The engineers blasted out foundations alongside this section of the wagon road and erected the great stone wall, filling in behind it to provide a shelf for the rails. This wall of hand-cut, fitted stones, placed and held without the use of mortar, is 452 feet in length, thirty-three feet in height and about two feet thick. So perfect was the engineering and workmanship that eighty-two years later only a few pieces have been displaced. The whole structure is as solid and strong today as on the day it was finished! An even longer retaining wall was constructed just below the Palisades, 550 feet in length but only six feet high.

It is believed that most of the stone for these walls was cut and fashioned at Alpine and brought down on "stone boats." Still clearly visible on many, many stones are the small drill holes used to plug and feather for square breaks. As the walls grew in height, they were back-filled so the workmen could bring new stone directly into position.

*The Poncha Springs Herald* made these observations about this particular stretch of railroad:

Beyond the range for several miles, extending well-nigh to Pitkin, the road winds up the mountainside by so many crooks and turns that it closely resembles a veritable serpent's tail, being in places three hundred feet and almost perpendicularly above the wagon road. For a distance of half a mile the roadbed is constructed upon a solid embankment of stone, which numerous workmen have been engaged for months piling together. In one place the rails have been laid along the sides of a cliff, the place where the track now lies being first reached by workmen only by means of rope ladders depending from the overhanging rocks, in some places two hundred feet. This is only one of the many specimens of the obstructions which enterprise has had to overcome in building railroads in the Rocky Mountains.

As the warm spring days of 1882 came, activity on the South Park reached a feverish pitch. The rails advanced around Sherrod Loop, to Woodstock, to Quartz, and into Pitkin. In *Historical Sketches of Early Gunnison* we read:

After two years of waiting, the people of Pitkin, on July 15, saw the black smoke curl from the stack of the engine and roll back into the hills. In August the rumble of the train was heard in Ohio City. By August 19, Parlin was reached. Only the home stretch remained and track was being laid at the rate of a mile a day. By the last day of August the construction engine was in sight of Gunnison; on September 2, the glittering steel was placed along San Juan Avenue to the South Park depot.

With hardly a pause to celebrate their arrival at Gunnison, track layers continued toward the coal fields at Baldwin. Despite the South Park's ambitions to reach the Pacific Coast, Baldwin became the end-of-track. Although grading and rock work were done up Ohio Creek, no rails were laid in this area.

With the first snow fall, it was necessary to install wooden doors at each portal of Alpine Tunnel to keep the snow from blowing and drifting into the tunnel and blocking traffic. Because these were soon found inadequate, long snow sheds were erected at each portal. These were closed by mammoth swinging doors attached to supporting timbers by great strapiron hinges, three pairs to each door, each hinge about forty-eight inches long. Maintenance men tended the tunnel and operated the doors on signal from the engineers of approaching trains.

The sturdy Alpine station, though small, was well constructed, snug and weather-tight, fully equipped, and always in constant communication with the entire system via its telegraphic facilities. The huge stone engine house could accommodate six engines for repairs and service. No provision for turning engines had been built at that time, as there were wyes at both Hancock and Pitkin. Alpine was indeed a fine, modern, well-equipped, well-planned installation on a great, progressive railroad!

A raging fire in early 1906 gutted the original stone buildings. No effort was ever made to rebuild them. In September of 1906 the Colorado & Southern constructed a new two-story frame boarding house, alongside the Alpine Depot and Telegraph Office. In 1907, on the west side of the main line, between the station and the west portal, a turntable was installed. On the east side of the right of way, a new water tank was built.

No facilities of any kind were ever constructed at Atlantic (east portal) other than a long passing track, or 16-car spur as it was referred to.

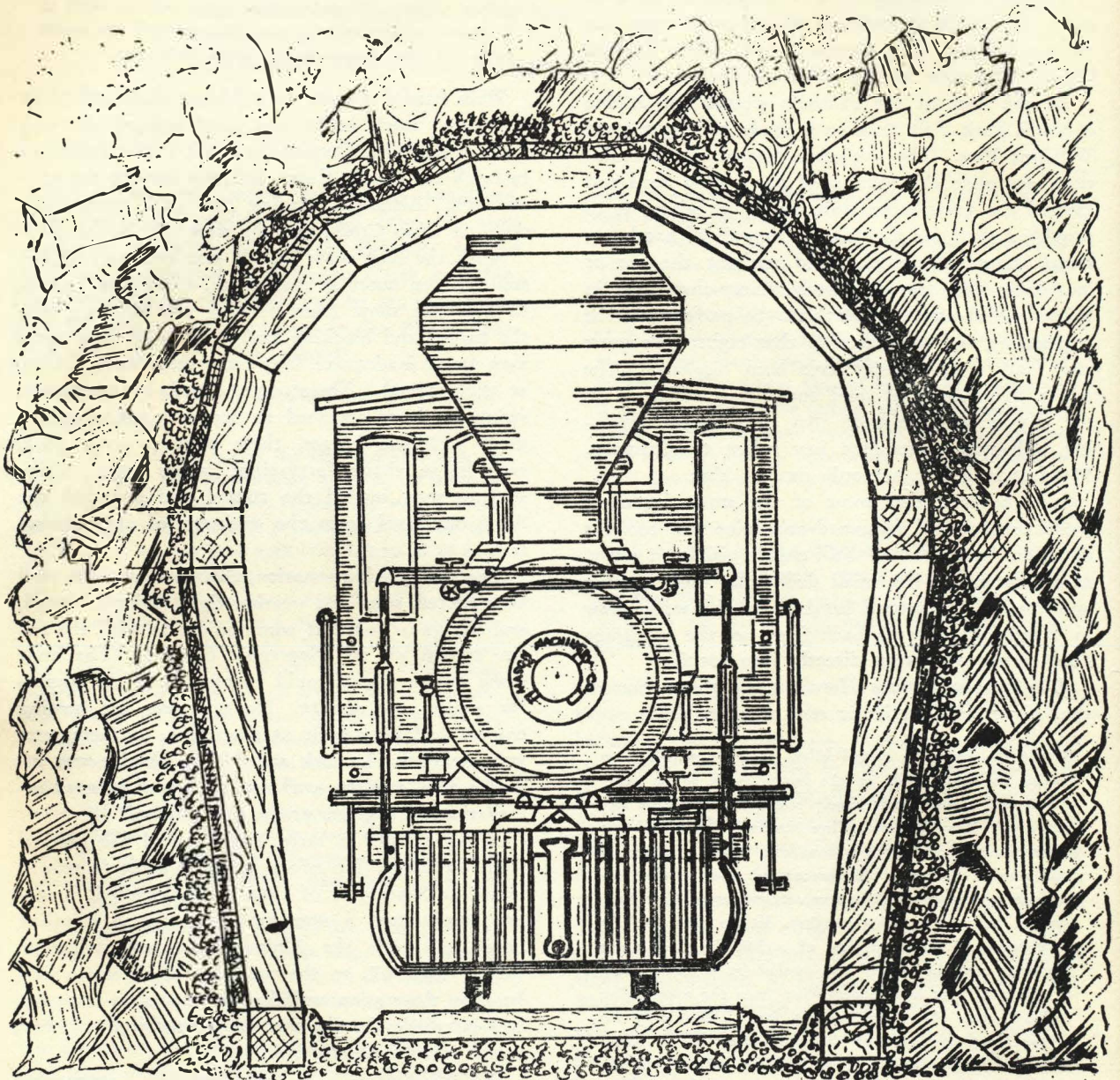
*Historical Sketches of Early Gunnison* said beautifully:



## Historic Alpine Tunnel

As the Roman of old built roads that he might carry his customs and culture to the distant provinces, so the builder of today has constructed railroads that he may give life to the wilderness. Indomitable strength and courage and faith

have been his. He has counted as loss nothing which has served to accomplish his purpose. And he has won. In his wake have come the school, the church and the home—the foundations of a permanent culture. These mountain fastnesses for which the builder has struggled, because of his effort, have been dedicated to civilization.



Many veteran railroaders who worked through the Alpine Tunnel commented on how the engines and cars would often scrape the timbers along the sides of the bore. Bill Bruce has scaled the measurements of the largest locomotives used, to the composite minimum dimensions of Alpine Tunnel. Using the artist's privilege, he has sketched a Mason bogie, while in fact, C.&S. Engines Nos. 71, 72 and 73, built by Baldwin, were the largest used. (See builders drawings.)



# Inspection of the Tunnel

A Jolly Inspection  
Party's Adventures . . .  
—*Chaffee County Times*

The news that daylight had flashed through the Alpine Tunnel on July 26, 1881, became the great topic of conversation. So great was the interest that, just ten days later, an inspection party was formed and a reporter for the *Chaffee County Times* was invited to join the party. His account of the event follows in part:

The first train to Hancock last Friday morning was boarded by a merry party from the town of Alpine<sup>1</sup> who, filled with the spirit of adventure, had determined to visit the tunnel and enjoy the proud distinction of being the first party outside of those employed on the work, who had passed through. The *Times* representative was persuaded to become one of the party and the day shall be calendared among the red letter days of our mountain jaunts.

At Hancock, Bostwick and Storer began a systematic search for a conveyance, and the *Times* man took a spin around town. Their perseverance was rewarded by finding a lumber wagon drawn by two massive mules, which was engaged, and after some delay the party was loaded in and started up the Williams Pass stage road headed for the tunnel. After toiling up the hill perhaps a mile, a sharp descent towards the railroad grade was made. The "Alpine tourists" dismounted from their perch and proceeded down to the grade to the tunnel.

The ladies were delighted with the profusion and variety of wild flowers growing almost in the snow banks which still lingered in places on the hillside.

After clambering along the unfinished grades, around rocky cliffs and up and down devious trails, they arrived at the tunnel just as the workmen were going to dinner. Through the kindness of the as-

sistant foreman, Mr. Hocking, and the ladies of the boarding house, Mrs. Harris and Mrs. Cunningham, they were soon rigged out with a supply of rubber boots, old coats, hats and lamps for a trip into the bowels of the earth.

Would that an artist had been present to sketch the fantastic appearance of our ladies! Enveloped in rough coats which hid their comely forms, their heads surmounted by slouch hats and their feet encased in immense rubber boots, their "tout ensemble" was grotesque in the extreme. All seemed to enjoy the fun, however, and paddled bravely into the mud and water guided by the flicker of the miner's lamps they carried. After testing the acoustic properties of the tunnel by singing and shouting ourselves hoarse while passing through to the western end, we returned in time to meet the workmen coming to their afternoon work. A carpenter shop at the mouth of the tunnel being utilized for a dressing room by the ladies, they soon reappeared ready for dinner, and an excellent meal was secured at the camp boarding house.

The thanks of the entire party are due the boarding house ladies, to Mr. Hocking, and, in fact, to all those in charge of the work, for their kindness and courtesy during our visit. We finally got back to our wagon a satisfied but tired crew and rode gaily down to Hancock in time for the afternoon train.

Thus ended a very imperfectly sketched day of adventure of which the writer will always cherish a pleasant reminiscence. Everywhere the din of labor was regnant—railroad men pounding rails for switches and blasting rock for water tanks and carpenters and builders using hammer and saw with unceasing activity on all sides, gave one some idea of the magic transformation of a primitive wilderness to a thriving railroad town in the Rocky Mountains.

—*Chaffee County Times*

August 5, 1881

Archives, Charles Leaming Tutt Library  
Colorado College

<sup>1</sup>When it was decided to name the bore Alpine Tunnel, the small town of Alpine, below St. Elmo, was renamed Fisher.



# First Train Through Alpine Tunnel

Pitkin Jubilant

Arrival of the Denver, South Park & Pacific Railroad

Great Enthusiasm Throughout the Camp

—Special Correspondent of the *Review*

Pitkin July 13th — Yesterday was a day long to be remembered by the citizens of Pitkin, on account of the arrival of the railroad. After waiting patiently for the event for two years, outsiders cannot blame us much for manifesting our enthusiasm in a pretty demonstrative way. Night before last the track was laid within a half mile of the city limits and one mile of the depot grounds, and about three o'clock p.m. about 150 workmen, together with a construction train, arrived at the grounds, between Sixth and Seventh Streets on State, where they were met and welcomed by the citizens of Pitkin, by firing giant powder and a neat and appropriate little welcoming speech, by Hon. J. F. Drexilius, which was well received by all, after which our boys gave three rousing cheers for the DSP&P. But the surprise of the railroad men can better be imagined than discussed, when they were invited to partake of three or four barrels of beer and several boxes of cigars, and all seemed to appreciate the hearty welcome they received.

Today, at 12:30 o'clock the first passenger train of three or four coaches, arrived bringing the U.S. Mail, a party of excursionists, and Williams' Theatrical Troupe, who propose giving several entertainments here this week, including a Saturday afternoon matinee.

From the *Gunnison Weekly Review* — July 15, 1882

Seven days later, on July 19, 1882, an event of extraordinary importance occurred—one that might have had a devastating effect on the future prospects of the railroad had it not been handled with great care.

A special train, consisting of an engine and one sleeping car, made an inspection trip over the newly completed Gunnison division. The twenty people on board included most of the important dignitaries of the railroad. The motive power was engine No. 4, the "Ouray," a 43,850 pound, 2-6-6T Mason Bogie.<sup>1</sup>

<sup>1</sup>Locomotives from several manufacturers were used during the life of the South Park but most notable were those made by the Mason Machine Works, of Taunton, Mass., and referred to as "Mason Bogies." They were often called "sewing machines" although these engines were especially elegant in appearance and possessed unusual practical utility.

The little train strutted importantly up lovely Chalk Creek, making a brief stop at St. Elmo to accept greetings and good wishes from the small crowd and go through the formality of picking up orders. The long, graceful climb continued, past the Mary Murphy mine and Romley and into Hancock, the last point on the eastern ascent before "Atlantic," as the installation at east portal had been named.

Among the distinguished passengers were Sydney Dillon, who was destined someday to become president of the great Union Pacific R. R., Leonard H. Eicholtz, and Messrs, Canfield, Armstrong, and Fisher. Wives were justly proud of their husbands' accomplishments.

Following passage through the tunnel, the little train rolled around the gentle curve at the west portal and again paused for official inspection. A few more turns of the wheels brought it to the Alpine station and telegraph office. The great stone engine house, stone boarding house, bunkhouse, water and coal facilities, were all inspected critically. The plant was trim and efficient. There should be no operational problems at Alpine! Everyone was captivated by the sheer beauty of the tiny valley that sheltered Alpine!

Heading west, the rails gently curved to the left as they led downgrade toward the Palisades and the Sherrod Loop. Some of the passengers experienced apprehension as the train crept past the Palisades, a feeling that was to be shared by thousands of others in the years ahead.

The train reversed direction at the 24° Sherrod Curve, and the passengers could look up at the course of the railroad over which they had just passed. From Sherrod, the line of the road could be seen climbing, climbing, across the faces of two mountains, dipping into valleys between, and dis-



## First Train through Tunnel

appearing into the final approach to the little valley of Alpine Station.

Then trouble struck! The train ran "wild" and gained such speed that several of the passengers thought it prudent to jump for their lives. Many versions of this accident have been reported. Following are portions of two newspaper stories which appeared in the *Gunnison Weekly Review* of July 22 and July 27, 1882. It is obvious from the second newspaper article that the railroad did everything possible to play down this accident. Certainly no bad publicity was wanted for the opening of the new line.

### *Accident*

#### *On the Denver, South Park & Pacific R.R. An Engine on a Special Train Becomes Unmanageable*

Special Correspondent to the *Review*, Pitkin July 20, 1882 — Yesterday afternoon an accident occurred on the above road at a point between Woodstock and the U, by which several parties were more or less injured by jumping from the train when at full speed. It appears that the train was running at a rapid rate, and the engineer applied the air brakes, when something gave way, and he lost control of his engine and it ran away. However, they cut the engine loose from the coach, which was stopped with hand brakes in a short time, while the engine ran some distance before it could be checked. In the meantime several parties jumped from the train and were injured.

The train, a special, consisted of a single sleeping coach, in which were about twenty railroad officials and their wives inspecting the road from this point, among whom I heard the names of Fisher, Dillon, Armstrong, Canfield, and others. I am told that the ladies of the party exhibited a great deal of bravery, which the men would have done well to imitate. Neither the engine or the coach jumped the track. Had such been the case, the consequences would have been fearful.

From the *Gunnison Weekly Review*—July 22, 1882:

#### *The Denver South Park Further Particulars Concerning the Late Accident Near the Tunnel*

It will be remembered by our readers that an accident occurred west of the Alpine Tunnel to a special train bringing some railway officials over the Denver & South Park railway. We have the following additional particulars which we find in the *Denver Times* of the 25th, which the paper gleaned from Col. Fisher, the superintendent, who was one of the parties; "It was more of a scare than an accident," said the Col., "and there was not much occasion for a scare, although the members of the party

who had never done much mountain railroading didn't know that. There was nothing wrong with the air brakes and there never has been a time when they refused to do their work. The only trouble we had was this; after we had passed through the tunnel, and when we were about half way from it to Pitkin, a piece of casting on one side of the locomotive broke. The engineer stopped the train and the damage was repaired as well as it could be. The engineer thought that he could make the run to Pitkin with the power of one side of the locomotive, the damaged side, of course, being useless. We had started on our way again when we got going at a little faster rate than our usual speed, say twenty miles an hour. The porter of the Pullman began to get frightened and he yelled for everybody to jump off. This sort of stampeded the passengers and several of them jumped off. Mr. Armstrong was not hurt, nor were any of the party, except Mr. Canfield, a cripple, whose ankle was fractured. The conductor uncoupled the car from the locomotive, put on the hand brakes and stopped it. The engine was stopped some distance below. Neither left the track and there was no danger of such an occurrence." Commissioner Armstrong and party are today viewing the beauties of the Colorado Central. He speaks of the Pitkin accident as "An exciting experience."

—From the *Gunnison Daily Review*—  
Thursday, July 27, 1882.

For a final word on this accident, we quote from Leonard H. Eicholtz. "July 18, 1882, Col. Fisher took the Armstrong party over So. Park R. today. Nellie [Mrs. Eicholtz] and I left over the D.&R.G. this p.m. to meet them tomorrow at Buena Vista. July 19th, 1882, Met the party at Buena Vista and went over Alpine Pass to Pitkin. Met with a fearful accident by the train getting away going down the steep grade near Quartz. Most of the gentlemen jumped off the train, Jas. Canfield breaking his leg. Remained at Pitkin all night. (From Eicholtz' personal journals, University of Wyoming Archives.)

Construction onward from Pitkin continued with increased urgency. The rails reached Parlins, on the banks of Tomichi Creek, on August 19, 1882. Now the grade of the DSP&P paralleled the rails of the Denver & Rio Grande R.R., which had reached Gunnison thirteen months earlier. In this water-level terrain the 40-pound rail was laid at the rate of 1,200 feet per hour. The inspired sledge men set spikes at the rate of one and a half minutes per rail.

The occasion was reported by George A. Root as follows:

Denver & South Park railroad to Gunnison early in September, 1882, was the occasion of a hilarious jollification



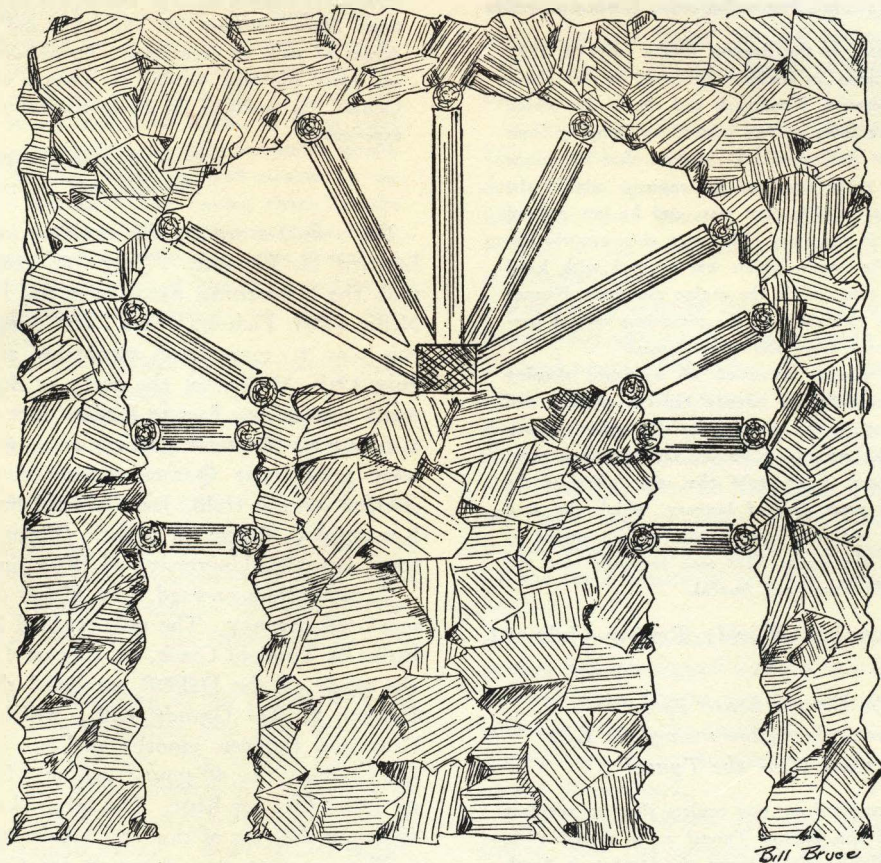
## Historic Alpine Tunnel

on the evening of the fifth. This road came by way of the Alpine Pass tunnel, the highest railway tunnel in North America at that time—and may be yet for aught I know. Once the tunnel was completed, the force of graders and track layers was set to work building the line down the valley to Gunnison, the last of the track laying being completed at the rate of about two miles daily. The South Park shortly extended a branch line up the Ohio Creek valley to Mt. Carbon to tap the rich coal deposits there, this coal finding a ready sale on the Gunnison market.

"Gunnison in the Early Eighties"  
by Geo. A. Root. *Colorado Magazine*,  
November, 1932

The Alpine Route, joining Gunnison City and Denver, was an immediate success as far as passenger traffic was concerned, it being considerably shorter and faster than the D&RG's route over Marshall Pass to Denver via Salida, Pueblo, and Colorado Springs. Carloadings boomed with supplies inbound for the roaring Gunnison-Pitkin-Tin Cup mining district and concentrates outbound for the smelters.

The great battle of Alpine had been won! The eyes of the nation had watched the little railroad battle its way through the Rockies. Alpine was the only tunnel to penetrate the Continental Divide and the rails at Alpine took their trains to the highest altitude ever attained. Alpine was an historic achievement!



Bill Bruce

The center-core saves work and material when used in this manner to support the tunnel roof and walls during excavation.



## Impressions of C. F. R. Hayward

Under the Range  
The New Way of Going Over It  
The First Tunnel Through the Continental Divide  
The Opening of the Alpine Tunnel Route—  
Through the Rockies  
Two Miles Above the Sea—The Scenic and  
Mineral Line of Colorado!

With the completion of the Alpine Tunnel and the extension of rails into the Gunnison country, South Park officials were especially anxious to obtain all the publicity possible.

Aboard the first train through the tunnel, on July 13, 1882, was Mr. C. F. R. Hayward, a Denver newspaperman. His impressions appeared on the front page of the *Denver Times* of July 15, 1882. So colorful and so absorbing was his story, it is herewith reproduced in its entirety, courtesy Western History Department, Denver Public Library.

Time, 10:36 a.m. To the East Mt. Shavana rears its bare head above the clouds high into cerulean space. Chalk Creek valley, with its pine-clad slopes stretches away to the South, abruptly ending its green way against a mountain range that stands barrier-like thirty miles distant. To the west a granite wall. Suddenly the valley, mountain peaks, and blue sky disappear. A blackness, darker than the night, permeates everything.

Time, 10:46 a.m. Another metamorphosis. Night has gone and day has come again. To the east, a granite wall. To the west, a wooded valley, with sparkling streams threading their way through it like flashes of sunlight.

The time has been just ten minutes, but in that brief space, the scene has been changed from the Atlantic to the Pacific slope. The water that gurgled out of the ground ten minutes ago wound its way to the tossing Atlantic. The bubbling baby springs which now leap laughingly from the rocks will be lulled to sleep on the calm bosom of the Pacific. The great Continental Divide has been crossed. Has it been a dream? Was the swift-coming darkness really night, and did slumber and dreams really come with it?

A century ago a man would rather have believed that he had been dreaming, for to say that he hadn't, would argue himself mad, for who, in the days of our forefathers would have dared to assert that a tunnel could be dug through the heart of the Rocky Mountains more than two miles above the sea that splashed against Plymouth Rock!

But that was a hundred years ago. What was not even dreamed of then is a fact today.

A tunnel has been dug through the granite walls of the backbone of America, and the iron horse rolls through it with as much imperturbability and with a great deal less motion than Peter Cooper's engine had when it astonished the natives by steaming out of Baltimore to Frederick in 1830.

It is known as the Alpine Tunnel, the first one to be cut through the great range. It is on the Gunnison Extension of the South Park branch of the Union Pacific Railway. A *Times* representative accompanied several of the company's officials on a trip of inspection of the tunnel and the new road, which has been completed to Pitkin in the heart of the Quartz Creek mining district.

The Gunnison Extension leaves the main line of the South Park at Buena Vista. Taking a southerly course, the road runs down through the valley of the Arkansas, the turgid stream of that name, rushing and roaring in its narrow bed to the left of the track. Yale, Princeton, and Harvard mountains proudly rear their heads to the right while green ranches stretch off for a dozen miles to the South of the river.

At the little station of Nathrop, the road reaches a point from which further progress seems impossi-



## Historic Alpine Tunnel

ble. It is mountain-hemmed on every side. But the spunky little engine finds its way out. It dashes in between the mountains passing Heywood Springs, a watering place that will someday be a great resort, suddenly bursting into the great Chalk Creek valley. The tall gray walls seem to have closed behind. Civilization has been left outside and man feels that he has become the guest of nature. The wind is blowing the stately pines which murmur back a soft and soothing breathing. The sharp call of the killdeer, the singing of locusts and the splashing and gurgling of the mountain brooks, which spring from the mountain sides, sparkling joyously as they are glad to drink the air and coquette with old sol, which beams so brightly on them, speaks of nature alone.

Oh, how glorious is such water—the sparkle of champagne is dead beside it, and it brings a sense of delight and refreshment that Mumm's Dry does not possess. There is water everywhere; it spurts out, flows out, calmly and serenely, it drops down from the overhanging banks, and it oozes out—does anything to get out to the air and sunshine. In the streams that wind through the valley with a reckless disregard for everything, the trout lurks in his shady nook, darting out now and then for a fly or being hooked out with a fly. These are the streams dear to the fisherman's heart.

### *Why The Tunnel Was Built*

The train climbs by curves and angles, and sometimes, it seems, almost straight-up the mountain, the little engine puffing and blowing at her work with a bluster that has in it the determination to succeed. The tall pines grow fewer and those that do manage to exist have a sickly time of it. They don't look like the strong, green-boughed trees whose tops make a green carpet for the hillsides below. The air grows cooler, and it is more "eager" than Hamlet ever complained of. Usually the sun shines brightly, and the blue sky overhead is without a flaw at this point. But yesterday the sky was dull when the train labored up the mountain-side to the eastern mouth of the tunnel.

You felt something strike your face with a cold dampness that sent a chill through you. The train rounded its last curve, and with much hissing of escaping steam came to a halt immediately in front of a big hole in the side of a mountain which loomed up six hundred feet higher.

The pine trees have disappeared altogether, except those that can be seen in the valley and mountain-sides below. The cold drops of dampness which pelted against you a few hundred feet below now fall with increased frequency, and they are more substantial than the introductory ones. The sky is overcast; the wind blows against your cheeks and makes you think of the time you nearly froze to death when you went skating, a good many years ago. The air is thick with flying particles.

### *It's Snowing!*

Yes, and it's snowing in earnest, too; and on the 13th of July! The spunky little locomotive begins to move toward the tunnel while you are wondering at the marvels that surround you—the tunnel, the scenery, the biting air, and the snow storm. Darker than Egypt is the tunnel; blacker than your hat or "darker than the ace of spades," as a miner who went through the tunnel yesterday put it.

As there is nothing to be seen, it is a good time to think about the wonders of this great hole in the mountain and how it was built. Three years ago the mountain slopes on the other side of the range were discovered to be teeming with mineral by the hardy prospectors who toiled over Marshall or Cottonwood Pass in search of a fortune in the mountain-side. Despite the fact that there was no way of getting to this new Eldorado, reports of the riches of which soon spread all over the world, except by staging it through passes that were snowed up eight months in the year, hundreds of adventurous men flocked to it, some of them crossing the range on snowshoes in the dead of winter.

They found the country all that it had been painted. The mineral was rich and there was plenty of it. But there was one drawback; there was no way to turn the ore into money. The ores were principally of a low grade and, although they were found in bountiful quantities, yet it would not pay to pack them over the range to be treated.

In the Fall of '79 a number of pioneers, charmed with the beautiful valley of Quartz Creek, whose wooded mountain sides were rich with ore, decided to build up a town beside the clear running brook. They named it Pitkin, in honor of his excellency, Governor Pitkin.

In the Spring of '80 the fame of the Quartz Creek country having traveled all over the state, immigration began to pour into the town at a rate that



## Impressions of C. F. R. Hayward

made glad the hearts of the pioneer settlers. Since then, notwithstanding the fact that the new town was not reached by railroad, it has enjoyed the greatest of happiness that can come to a mining camp—a continual “boom.” Today Pitkin is the home of two thousand persons. Its principal street is wide and level, and the character of the houses that line its sides have an air of comfort, cleanliness, and thrift that is rare in a new mining community. In truth, it is a model camp and the Pitkinites may be pardoned the great pride they have in it. They think that if Pitkin can pick up two thousand people in two years without a railroad, she ought to get four times as many with a railroad, in the next two years. But the pioneers who went there two years ago have had a hard time of it. Many times during the winter of '81 flour cost as high as \$25.00 per hundred pounds, bacon found ready purchasers at 50 cents, and coffee must be had though it cost 75 cents per pound.

It was almost impossible to get supplies into Pitkin during that winter. Under such disadvantages the country could not, of course, be given that development which the mine owners had hoped to give it.

The great need of the country was a railroad. There was one, completed to Gunnison City, last fall. This gave them some relief, but not enough. Now that the South Park is completed, they are happy, and the camp is growing rapidly. Town lots that could have been bought for five hundred dollars last fall now find ready purchasers at fifteen hundred dollars. The camp has two newspapers, the *Mining News* edited by F. P. Sheafor and the *Independent* edited by J. B. Graham.

The management of the Union Pacific, realizing the richness of the country and the importance to which it was bound to grow, decided to build a road through to Gunnison City. A party of experienced engineers was sent out to seek a pass over the range. Their labors resulted in the selection of Alpine Pass, with a determination to cut a tunnel through the range where it was impossible to get over it.

Major Evans selected the place where he wanted the tunnel to enter the mountains and, having completed his surveys and drawings, put the men to work boring into the mountain in January, 1880, with the midwinter snows piled high around them.

The tunnel was completed in December, 1881, the work consuming not quite two years. To make a tunnel through the Rockies is in itself a great

achievement. The reader will consider it doubly so when it is stated that it was dug on a curve, the approaches on both sides of the divide being of such character as to make it imperative. The boring was begun at both sides of the mountains. The men on the Atlantic slope were working in to meet those from the Pacific, who were accomplishing an equal amount of work daily. Although the tunnel follows a curve its entire length, yet so skillfully were the surveying calculations made, that when the two forces of the bore met in the heart of the mountain the sides of the tunnel were not an inch off line. There is no record of a more thoroughly scientific piece of engineering than this. The work was accomplished with great difficulty. Its height is so great that it was only at great cost and labor that supplies could be transported to it. Then, there was great difficulty in securing and keeping laborers. The altitude is such that it is impossible for a man to do as much work in a day as he could do on the plains, and in the winter the cold was intense. It was not an inviting prospect to a laborer.

Engineer P. F. Barr, was on the spot during the entire construction. His headquarters for the two years were in the saddle.

The following figures may give some idea of the magnitude of the work. The tunnel is 11,524 feet above sea level, just above timberline. The tunnel itself is 1,773 feet long. With its approaches, which are constructed of heavy timber, it is 2,500 feet long. In the work of construction, 17,000 yards of granite and dirt were taken out. The timbering used is California redwood of which there is 400,000 feet. This wood never rots. It is known to have lasted seventy years in tunnels without showing signs of decay. The difficulty in transporting this timber to the top of the range over a road that horses never traversed before can be imagined. The cost of the tunnel was nearly \$300,000.

The valley of Quartz Creek should be named the valley of enchantment. For scenery of its kind, there is nothing more beautiful in the West. A description of it would be as tame and fall as short of conveying an idea of its beauty as a description of a gorgeous sunset does. Before reaching the point from which the best view can be had the road passes through a garden of paradoxes in nature. The gentlemen composing the party which went through the tunnel yesterday amused themselves in various ways while the train was stopping after having emerged



## Historic Alpine Tunnel

from the opening of the Pacific slope. The aesthetic member picked a bouquet of beautiful mountain flowers which seemed to have sprung from the granite rocks. Two of the more frolicsome jumped into a snow bank which lay about ten feet from the track and pelted one another with snowballs. This bed of eternal snow was about eight feet deep and so hard that the invaders did not sink deeper than a few inches.

The snowstorm which had begun just as the train entered the tunnel on the other side of the range had spent itself. The clouds had disappeared and the sun was shining brightly. It was still cold—so cold that one of the gentlemen got aboard the locomotive to get warm.

About a mile west of the tunnel the engine suddenly dashes around a curve and brings the passenger upon the entrance to

### *The Valley of Enchantment*

\* This is the scene. Ten thousand feet above the sea the train clings to the mountainside, the walls rising almost perpendicularly to a height of about five hundred feet. The foothold for the track was made by tearing rocks from the rocky cliffs and piling them one above another until a roadbed was secured. There is, perhaps, three feet between one and eternity—that is between him and the place where he starts for eternity, for the tumble down from the dizzy height would be sure death.

For a stretch of five hundred feet the roadbed had been made of rock taken from the mountain. Looking down eight hundred feet, the awe-inspired spectator sees two slender shining bands winding their way down the hillside with parallel uniformity, with the valley still a thousand feet below. It is the track of the same road that he is on after it has wound and curved and twisted its way to the valley below. It makes one dizzy to look down and it makes him tremble to think that he has got to go down there—not all at once of course, but by steep grades and sharp curves.

• Lifting his eyes from the abyss immediately beneath, one sees a view open up before him that kills the terror that has made him tremble and fills him with an inspiration of poetry and delight. Had the train at that moment jumped from the rails and careened madly over the precipice, the writer would, at least, have died happy.

• The valley of Quartz Creek lies two thousand feet below. There is a long stretch of brightest green at

the bottom which rises gracefully, fading into lesser proportions to the pine covered hills beyond. Quartz Creek and its hundred little tributaries sparkle like silver serpents as they wind in and out of sight.

Rising abruptly, yet gracefully, from this footstool of emerald, sheltering mountains soar skyward, with soft graduating tints to which the summer sun lends its radiating glory. The sides of the mountains, as they begin their ascent, are thickly wooded with pine, the dark green of which contrasts with refreshing effect with the lighter green of the grass-carpeted valley. Above the tree tops, great bare spots thrust their bareness upon the gaze of the beholder, and still higher the mountains throw off their smooth baldness and put out their jagged peaks as if in lordly supremacy of all beneath and in defiance of whatever there may be above.

This forms the sides of the picture. The perspective is yet to be seen. Way off through the refreshing greenness of the Quartz valley the spectator looks into the Gunnison valley with its purple haziness and still further on into the San Juan where Uncompaghe Peak reigns monarch of all.

The snow-filled passes in this rugged robe and the halo surrounding them being far more kingly than the royal purple and ermine of human monarchs. This scene is worth going from the Atlantic to see. It will undoubtedly in the near future rank with Yellowstone Park as possessing the grandest scenery in America.

A word about the track that takes the traveler through this great tunnel and the writer will be done. The line might have been completed some months ago had it not been the company's resolve to make it the best-constructed road in the west.

The curves are built on the "compensating" theory, the roadbed is as solid as rock can make it, the rails are of forty-pound steel and the ties are of extra thickness and laid in unusual numbers to the mile. The rate of running speed is not greater than twelve miles per hour, and the engineer has his train under control at all times.

It is a fact, singular as it may appear, that there are fewer accidents on mountain roads than those built over a level country. The South Park has never, in its existence, killed a passenger. The road has been completed to Pitkin and will be in Gunnison City by the 15th of August. It traverses a mineral belt from the time it leaves Nathrop until it reaches Gunnison and is 83 miles shorter than the D&RG. There is a vast amount of ore awaiting shipment. Trains are running daily between Denver and Pitkin.

## Union Pacific Tourist

"On a Little Further and  
a Plunge Is Taken Into the  
Blackness of Alpine Tunnel . . ."

In the late 1880's travelers for the Western Slope country of Colorado converged on St. Elmo, gem of Chalk Creek. Here the routes split, one going by rail through Alpine Tunnel, the other by Concord over Tin Cup Pass into the Taylor River country, and then via Taylor Pass into booming Aspen.

Just as many railroads today operate separate bus and truck lines, so did the Union Pacific operate these stage lines in the 1880's.

Following is a part of the text of "The Union Pacific Tourist" 3rd Edition, Revised and Enlarged, published by the Passenger Department in 1886, courtesy Western History Department, Denver Public Library.

After leaving Buena Vista, Hortense inaugurates the real climb. Here stands a complete hotel which would pay a lessee handsomely. There is now a stern contest between steam and gravitation—steam wins. Of all the wonderful rides this is the most wonderful. What are words or the painter's willing brush? The spectator, if never before silenced, stands before the display, down upon which he gazes from his Pullman in cloudland, mute.

It is something to know that the world cannot duplicate this ride—this audacity of engineering; man has always before stopped short of this extreme.

As the valley is left, the well-ballasted track seems, in the shadow of the mountains from whose protection it never escapes, but a trail. It dodges hither and thither most puzzlingly. It leads by cozy nooks and castled hills and miniature valleys, which appear in glimpses and are gone. At Heywood, springs are seething fountains charged with health and, by the way, an excellent chance for capital to start a hotel.

Deeper grows the solitude, deeper and more drear. The trees have been swept by fire, but higher up they are green again. Still above them rise the gray peaks, monsters of chilly chaos. The only life they know is that of the prospector, who searches in them for a

fortune. No vegetation can find a hold near their summits. Huddled close to their bases are little towns all along the line. The highest are St. Elmo, Alpine, and Hancock. These towns, aside from St. Elmo, which is an important stage and division station, are supported by great mineral deposits, Chalk Creek valley being rich in gold and silver.

Their people look rather scornfully upon the denizens of more ordinary altitude. They do not find gardens essential to happiness nor lawns an absolute requirement.

### *Through Alpine Tunnel*

Hancock is the last little town passed. Beyond that, after one very decided swing, there is a long slanting tangent leading to a lofty hole in the mountain. Perhaps the thought of a possible accident arises. What if the train should break? Simply that the cars, by automatic pressure, would instantly stop. On a little further, and a plunge is taken into the blackness of Alpine Tunnel. Think of it! Rolling through the Rockies at a height of 11,620 feet! Above trees, above verdure, above everything but snow that lies in perpetual banks on either side and may be flying on any day of the year; the flowers fragrant and the brightest ever seen, filling the frosty air with their perfume and seeming delighted with their color. Somewhere along the way the seasons clasp hands, for, though it be summer in the valley, it is not summer here, only for these flowery tokens sweetly defiant of nipping chill.

Except in the South American Andes, this tunnel is the highest railroad point ever attained. You enter from the Atlantic slope; you emerge upon the Pacific. The point of change is in the center. The impetus tells the moment it is crossed, and the engines, before goaded to their work, have to be held in severe curb by their courageous drivers.

Two drops of water, such as continually fall from



## Historic Alpine Tunnel

the roof, are hanging but half an inch apart. Trembling in the cold and bleakness, they loosen their tiny holds and patter down. They were neighbors; but now, hesitating a second, each starts with its fellows, and when they join finally the ocean, there is a span of a continent between them.

The actual length of the tunnel, regardless of wooded approaches, is 1,773 feet. It occupied nearly two years in building. Its seventy thousand linear feet of California redwood lining was brought up on pack horses over trails that had known the touch of no hoof but the mountain sheep's and where man himself had scarce dared to venture.

Operations were carried on from both ends, and, despite the curvature, when the respective gangs first caught the flash of each other's lamps, they were less than one inch out of the way the engineer had mapped for them. The great expense was only warranted by the greatness of the country, which is now fastened to the outer world by this link of darkness.

This branch of the Union Pacific system was built to develop Quartz Creek valley and the Great Gunnison. Development has been more rapid than was ever hoped. The wealth of the Southwest is marvelous. The valley of Quartz Creek is a storehouse. In its vault is silver without limit, but man has forged a key, and a hundred shafts and tunnels are freely pouring out their treasure. From St. Elmo to Denver an immense business is done, and yet when this branch was built, the camp of Aspen which creates this business was hardly thought of.

The best views are beyond the tunnel. The train, fly-like, clings to the shelf which has been blasted for it along the perpendicular mountain side. The rocky masses which have been displaced have gone rushing and crushed hundreds of feet below. To the right, the valley of Quartz Creek, an interminable avenue of green, is gloomed by its pine border, and above it the peaks stand grimly and cloud-caressed. At the Palisades the train pauses between a stupendous natural wall and an artificial wall. The first rises upward to a height which would be appalling did not admiration drown every thought of fear. The other is the safeguard below. Far beneath, full a thousand feet, is the track, two shining parallels that might be silken threads instead of spiked and bolted steel. It is the same track which penetrates the tunnel and crosses the Palisades, but a pebble could be tossed down upon it. Height and

depth would make a frightful total were it not more grand than frightful. Beyond the distinctness of the Quartz Valley is Gunnison's vast expanse, and still over it is the San Juan, where, veiled with the haze of distance, old Uncompaghere, the king of the southern range, can be seen in the center of his hosts.

Over one hundred and fifty miles away the outlines are distinct and the snow in sight. How the colors blend! How the mountains arise in countless array, the valley with its streams lying between them.

Hair-pin curve is the descent into the valley. The title, dolefully inappropriate, conveys an idea of its shape. It should have been called Silver Loop. From the valley you may look up at the Palisades, merely elongated niches, and wonder anew at the binding of the hills. Two trains here might be miles apart by rail, yet should the upper one roll from its place it would fall directly upon the other. The rest of the way is rugged, if somewhat tamer. It leads by the representative mines of this great district, and they may be seen disgorging their loads of glittering ore. And yet with all their development there is hardly a beginning. Any prospector may stumble upon a fortune where there is no mark of the pick. The "Mary Murphy" and "Silent Friend" are but samples of what time will do.

At the town of Quartz there are sampling works, and all along there are signs of prosperous activity. Pitkin is a great and growing mining camp, the center of riches beyond all estimate. Without this branch of the Union Pacific it would be powerless to ship its ore. It is a fine town either from a tourist or a capitalist standpoint. From it are reached Juanita Hot Springs, which possess about the largest volume and finest medicinal qualities of any Colorado waters, and are more fully mentioned elsewhere.

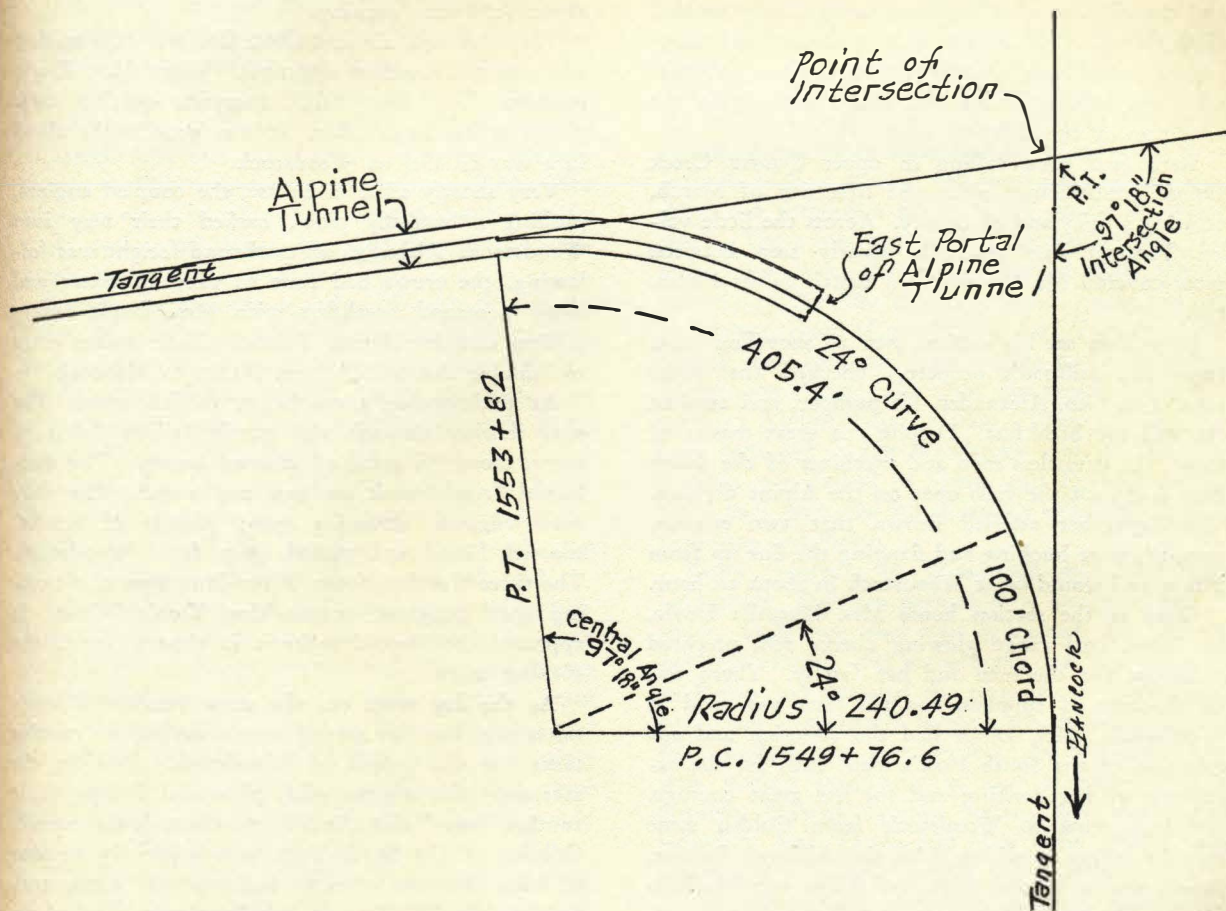
Gunnison is reached by an undulating valley, with ranches and grazing lands. It is a busy little city, of three thousand souls, the coming metropolis of its slope, great in resources and boundless in energy. Its coal measures would supply the Union, while gold and silver underlie its hills. Only recently a great smelter has been started there. The location is a level basin, mountain-bound. It is a natural supply point for the Southwest. Having been selected as a site for immense steel works, its future is assured. Already it boasts of gas and water-works, and the La Veta, such an hotel as would be first-class in a place of fifty thousand, erected at a cost of nearly

## Union Pacific Tourist

a quarter of a million. It is an elegant brick building of four stories. The hand of friendship is extended to you with sincere readiness.

Here, an honored guest, you may stay, or, making Gunnison your headquarters, try the wilds where the game is worth the effort of any nimrod. It must be

remembered that all this territory is covered by the Union Pacific excursions. To points nearer Denver, as in Platte Canon, there are excursions similar to those in Clear Creek Canyon, with rates as low. And everywhere it is arranged so that you may spend your summer in Colorado, at a cost as surprisingly low as the series of trips is enchanting.



Engineer's layout of the great curve where tracks of the South Park entered the east portal of Alpine Tunnel. Courtesy Colorado & Southern Railway Co.



# Disaster at Woodstock

"It was an Awful Trip From Woodstock  
Down with the Bodies."

*Salida Daily Mail*—March 15, 1884

The day dawned cold and clear March 10, 1884, and the citizens of Woodstock energetically tackled their chores. J. S. Brown, station master and telegrapher, gave both Gunnison and Como a weather and snow report for his area, and something on the condition of the right of way.

Snow had been falling in upper Quartz Creek almost continuously since the first day of March, creating a fairyland of beauty. Across the little valley Tomichi Pass could be clearly seen between snow-covered Mt. Paywell and Brittle Silver Mountain.

Mike Shea set his section men to shoveling snow from the railroad's property, checked the water tank with Geo. Alexander, his pumper, and awaited the call for breakfast. Despite the great masses of snow, the dauntless men and machines of the South Park had kept the rails open on the Alpine division. The dispatcher advised Brown that two engines, coupled, were bucking and flanging the line up from Pitkin and would be at Woodstock in about an hour.

Over at the section house Mrs. Marcella Doyle, her great coal range glowing cherry red, prepared breakfast for the men and her family. There was no shortage of supplies, and the fare was good at Woodstock. Mrs. Doyle had the affection and admiration of the South Park's men, both for the excellence of her cooking and for her great courage. She had come to Woodstock from Golden some months before, a widow with six children. Buxom, jovial, and a wizard with the skillet was Marcella Doyle. Her two oldest boys worked for the railroad.

In the remote fastness of upper Quartz Creek her boarding house stood like a shining beacon, offering comfort, hospitality, and shelter to every traveler.

Across Tomichi Pass some twelve miles away nestled the little town of White Pine. While Mrs. Doyle efficiently prepared breakfast, Eugene Teats and two companions strapped on their snowshoes at White Pine and plunged into the snowy wonderland for a hike to Woodstock. They were determined to

catch the night passenger train due at Woodstock about 5:35 that evening.

The crisp cold air at 11,000 feet was exhilarating and created ravenous appetites. When Mrs. Doyle sounded the "chow call," everyone quickly took places at her huge table. It was good to be alive! Life was GOOD at Woodstock.

Very shortly after breakfast, the coupled engines, pushing a butterfly plow, barked their way into Woodstock. Although an eastbound freight was following, the crews had time to take on water and enjoy a second breakfast with Mrs. Doyle before pulling out for Alpine Tunnel. Their orders were to "double the track" from Pitkin to Hancock.

At midmorning snow began to fall again. The sun, shining through the gently falling flakes of snow, created a scene of ethereal beauty. The eastbound freight took on coal and water. The four little engines, throwing great plumes of smoke, snorted, hissed, and pulled away from Woodstock. The three travelers from White Pine were also making good progress, approaching Tomichi Pass. It appeared they would make it in time to catch the evening train.

As the day wore on, the snow continued intermittently, but life settled into a myriad of routine tasks for the people of Woodstock. Late in the afternoon the engines with plow and flanger made another "pass" over the hill and through the tunnel. Officials of the South Park were especially anxious to keep the line open as business was good, and, besides, the Rio Grande was hopelessly blocked on Marshall Pass. It was a feather in the South Park's cap that theirs was the only connecting link between the Gunnison valley and Denver.

This was the town of Woodstock that crisp day in March of 1884, situated officially at milepost 171.2 from Denver, or 3.3 miles down-grade west

## Disaster at Woodstock

from Alpine Tunnel on the main line of the Denver South Park & Pacific. Altitude 10,800 feet.

Traveling west from Alpine, as the trains came down-grade from the Palisades and before they made the reverse turn at Sherrod Loop, passengers could look directly down on Woodstock. It was a delightfully picturesque little settlement. Every train, eastbound for Denver, stopped at Woodstock to take on water and coal, their last chance before reaching Alpine.

Woodstock had had its "day" when it was end-of-track, achieving a top population of about 200 residents. The surrounding slopes generously supplied the builders with railroad ties. A double passing track was installed at Woodstock. Huge amounts of freight had been marshalled here to be hauled by wagon to Pitkin, Quartz, and thriving White Pine over on the Tomichi. The railroad built a water tank, coaling platform, boarding house, and telegraph-station office.

During the summer months, Woodstock was the center of activity and base of operations for countless prospectors as there was every promise that considerable mineral wealth might be discovered in the upper Quartz Creek valley and Brittle Silver Basin. Prior to Woodstock, the center of activity had been the Trimble Cabin, a mile or so below Woodstock and on the banks of Middle Quartz Creek. Trimble Cabin had been a stagecoach stop on the Alpine-South Park wagon and toll road.

Late in the afternoon the winds increased, which meant drifting snow and the probability of snow packs in the cuts along the railroad. Operator Brown was routinely advised that the night passenger train from Gunnison had arrived in Pitkin on time and was cleared to proceed on to Woodstock and points east. Brown reported storm conditions, but there was no reason for holding the train, which would be due at Woodstock at 5:35 p.m.

The three hikers from White Pine crossed the top of Tomichi Pass about mid-afternoon and through the snow could see the cabins and smoke of Woodstock. To them it looked like a haven indeed!

Mrs. Doyle capably went about preparing the evening meal for her railroaders and her family. The sun sank behind the towering unnamed peaks west of the town, but all was snug and comfortable at Woodstock. The three men from White Pine arrived more than an hour ahead of the Express, warmed themselves, and recounted their trip over

the pass. Mrs. Doyle served coffee and soon their spirits were soaring again. It had been a dangerous and exhausting trip.

The train pulled in about six o'clock, took on water, and was checked over. The White Pine men arranged for Pullman accommodations to Denver. Operator Brown advised Alpine Tunnel Station, and the train pulled out of Woodstock for the long, hard climb to the top of the range. The train rounded Sherrod Loop and was making good progress up-grade toward the Palisades, when a drift in a cut stopped it. Furious snow-bucking broke through the cut. Then disaster struck!

Before the train could resume headway, the occupants were appalled to see a huge avalanche of snow and rocks start above and behind them, rolling over the tracks and on down the slope and completely engulfing the whole settlement of Woodstock! Sympathetic as they were, it was impossible for the train crew and passengers to assist the people of Woodstock. There was just no way to reach them. The train crew was, of course, charged with the responsibility for the safety of their passengers and equipment, ahead of everything else. Too, they were having their own problems, trying to avoid stalling in the snow drifts. The train was greatly delayed in reaching Alpine Tunnel station. Telegraph lines had been torn out in the Woodstock area, so the grim message was flashed to Como and Denver and relayed back over the Rio Grande's telegraph lines to Gunnison and Pitkin.

Every structure in Woodstock was completely obliterated. Eighteen persons were buried under the snow. Only one man was unscathed; his name is not remembered. He walked and ran the ten miles to Pitkin and reported the tragedy. A large rescue party was immediately formed, which included John Pearson, father of Art Pearson. At Woodstock the men worked frantically to save as many lives as possible. Out of eighteen persons, five were saved, including Mrs. Doyle and Miss Celia Dillon, who was engaged to Mrs. Doyle's son, Martin.

Ten bodies were recovered; rescuers were unable to locate the other three. Two of these were found later, but the body of Joe Royengo, saloon keeper, was not found until the following July.<sup>1</sup>

<sup>1</sup>In the middle of July following the tragedy, an odor came from the water tank at Woodstock. Investigation revealed the body of Joe Royengo.



## Historic Alpine Tunnel

The Woodstock disaster was reported in the *Salida Weekly Mail* of March 15th, 1884, as follows:

Pitkin, Colo. March 12—The Woodstock calamity is the all-absorbing topic of excitement here. The large relief party sent up by the citizens of Pitkin yesterday returned about dark tonight bringing ten dead bodies on roughly made hand sleds. The bodies are now in a temporary morgue here, in charge of deputy sheriff Rowen. Justice Shumate will hold an inquest tomorrow. Drs. Cockrell and W. A. Arey are now here but their services are not needed.

The bodies recovered and brought down are Martin Doyle, aged 23, Andra Doyle, aged 19, Katy, aged 18, Marielles Doyle, aged 14, Maggie Doyle, aged 12, and Christopher Doyle, aged 10. Three bodies yet remain in the slide, being J. S. Brown, the operator, Joe Gerozo, section man, and Joe Royengo, saloon keeper.

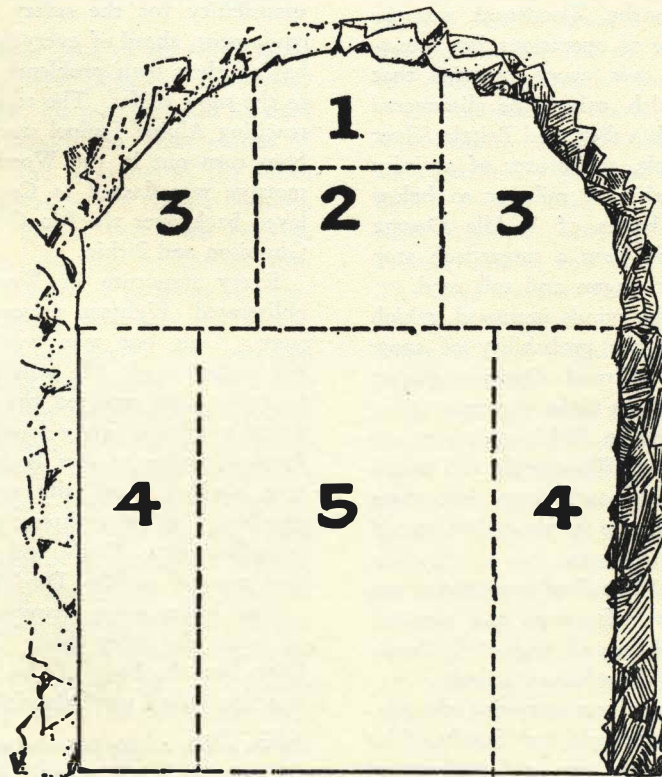
The bodies of Jasper M. Caswell of Tomichi, Jim Tracy, George Alexander, pumper, and Mike Shea, section man, are also here. Old Mrs. Doyle, late of Golden, was rescued alive after being in the slide nearly two hours. Miss Celia Dillon, who was engaged to Martin Doyle, was recovered after being

buried three and a half hours. A committee of citizens waited on superintendent D. K. Smith of the South Park this evening and he will endeavor to secure pay for those who rescued the bodies.

It was an awful trip from Woodstock down with the bodies. It took the men all day. The corpses were upset in the deep snow many times.

Few, indeed, are the women who have suffered such a paralyzing loss and so much physical torture as Mrs. Marcella Doyle.

Woodstock was never rebuilt. The railroad repaired the passing track and erected a new water tank, which was located about one-fourth mile east of the former site, in order to be away from the slide area. The foundation stones of the old tank are still in place and water continues to flow through the supply pipe from the spring on the hillside above. No memorial was ever erected in memory of those who perished at Woodstock. In 1959, Francis B. Trudgeon placed a small sign at the site as part of his "Historical Marker Project."



Sequence of digging when the center-core system is used. Section No. 5 represents the core, which is often left in place for hundreds of feet back of the heading. *Sketch by Bill Bruce.*



## A Perilous Trip

"The Crashing and Roaring  
Was Like the Tearing Away  
of a Mountainside . . ."

Eugene H. Teats was an eye-witness to the Woodstock slide. Years later he recounted this gripping experience in his "Recollections of a Pikes Peaker" published in the book *Foundation Stones* (October, 1926).

Although Teats erred in some facts, his description is vivid and moving. With two companions, he hiked from Sargents to White Pine and on to Woodstock to board a South Park train. His story, in part, follows:

"The Rio Grande was blocked and the only way out was by the Denver and South Park, then operating over Alpine Pass fully twelve miles via the Tomichi Pass to Woodstock.

"About an hour after our arrival at Woodstock, the train came in with two engines, one baggage car, one combination passenger and one Pullman.

"After a very brief stop the all aboard call of the conductor was welcome indeed and off we started on the up-grade toward where we had just come from, only on the opposite side of the gulch. Here, we could look across to the awful peril we had so recently left.

"We had to go quite a way up Missouri Gulch to gain the necessary grade to take us over Altman Pass. We had not been long on the return switch-back and well out of the gulch up the mountainside, before we were stalled in a deep cut filled with snow, packed so hard that our double-header could not buck its way through. It was then we beheld one of the most alarming sights I ever experienced!

"The air became surcharged with snow, so fine, so dense, simply a snow-fog without the fog horn, and the crashing and roaring like the tearing away of the mountainside. Looking from the windows and the door, we could see a moving mass. A whole mountainside seemed to be sliding into and filling up the gulch. It was then that we realized how lately we had left the very spot or side of the mountain from whence this great avalanche of snow had come. Tom and I harked back to just how narrow an

escape we had had, when we were pulling and coaxing our human burden down to safety.

"This great body of snow moved with the speed equal to air birds of this day. Finally it reached the railroad level and had seemingly selected for its stopping and final resting place the very spot where we had so recently boarded the Pullman at Woodstock Station. This station, comprising miners' shanties, eating houses, living, sleeping, workshop or car storage sheds, tool house, chicken house—everything was completely buried, and with it all went seventeen human lives.

"I was advised later that the only living thing rescued was one of the dogs, and he had survived a two-day burial.

"The overpowering avalanche of snow had done its death-dealing work and had swept everything before it, taking rocks, trees, bushes—everything from the top of the mountain to the bottom, leaving in its wake a bare swath. How thankful we were that we three had escaped this awful rush! We on the train did not dream of the fate of those who had lately ministered to our wants.

"From here on our headway was very slow, and when within a half a mile of the entrance to Alpine Tunnel, our engine went dead and other help must be had, which could only come from the other end of the tunnel. With darkness coming on, we could hardly expect help sooner than tomorrow morning, as no one would undertake such a walk at night.

"This was what followed. Our messenger had a hard time reaching the tunnel, and before he secured another engine to help us and it had fought its way to a point where we could see it, their supply of coal gave out and they had to return for more. Thus, their arrival at our snow-bound place was late in the day. We had been held prisoners, as it were, with a very limited larder, out of which sev-



### Historic Alpine Tunnel

eral snow-birds or shovellers had to be provided or they could not work.

"We did not reach real safety until the next morning, after a hard-fought battle with the snow, the passengers, especially those familiar with our

mountain travel in winter, having to help the snow birds. Food was very low, and even though we were within a few miles of relief, to reach safety we must go through the tunnel which was over three miles long. My, but that section house [probably Hancock] did look good and the coffee and pancakes with ham and eggs was a most satisfactory meal."



So universally was the railroad known and called the "South Park" that at one time officials used this insignia on their advertising literature, although there is no evidence that it was ever used on any rolling stock.

## Snow and Jull

Snow, Snow, Snow . . .  
Relentless Foe of the  
South Park!

The herculean job of fighting snow, to move men, animals, and supplies for the construction of Alpine Tunnel during the winters of 1880 and 1881, must have given officials of the railroad warning of the tremendous battles that were ahead to keep the line in operation, once it was finished.

In the high elevations of the Rockies storms of lashing fury rage, bringing mountainous deposits of snow. Wind and gales blow with such unabashed violence telegraph poles are often snapped off like match sticks. Avalanches on the steep slopes of the canons deposit great masses of snow, ice, rocks and uprooted trees across the right of way. There was always the danger one of these great slides might carry away an entire train<sup>1</sup> or the crews might be trapped between two slides and immobilized miles from any help.

Another persistent enemy of the South Park was the continual accumulation of solid ice on and between the rails. Water from snow melting during the warmer daylight hours would run onto the tracks and freeze solid during the night. This ice could easily lift the flanges of a locomotive's pony-truck wheels and cause derailment. To fight the ice, the South Park developed a device called the "Priest Flanger." Equipped with ice-knives to scrape the inside edge and the top of the rails, it was mounted on the locomotive just ahead of the pony-truck wheels.

During winter months engines were equipped with a solid steel wedge plow in place of the pilot. These massive steel plows removed snow by an operation known as "snow bucking." The procedure consisted of hitting the snow with all possible power and bucking it from the tracks by brute force. But it took more than these devices to conquer the huge snow drifts which often reached depths of twenty to twenty-five feet.

<sup>1</sup>In 1948 an entire narrow gauge train of the Denver & Rio Grande was carried several hundred feet downhill from the track, in the mountains east of Chama, New Mexico.

In 1890 the South Park purchased the first of two rotary snow plows from the Cooke Locomotive and Machine Co. A rotary had no means of locomotion and was usually pushed by three engines, with a fourth engine turned the opposite direction to pull the assembled snow fighters backward from a stall. The rotary's boiler produced steam for driving the mechanism which consisted of a bladed rotary-wheel spinning at high speed. The blades chewed into the packed snow, drawing the snow backward and throwing it upward and away from the grade.

These powerful little rotaries removed astounding amounts of snow, and, had it not been for rock and timber mixed into the snow slides, they probably could have kept the line open on both sides of the tunnel, except during the most severe storms. Great care had to be exercised in the operation of the rotary because timbers and rocks hidden in the snow mass could damage the whirling blades.

Most troublesome was the three-mile section from "Saw-Mill Curve" at Hancock up to the east portal. This grade hugs the north slope of the range and is the first to receive the winter snow and the last to be cleared by summer thaws.

So staggering was the snow problem that the South Park showed an immediate interest in a new type of plow invented by Mr. Orange Jull. In April, 1890, there occurred one of the most interesting experiments in Rocky Mountain railroading.

On this date, the Alpine Pass division between St. Elmo and the tunnel had been solidly blocked for three months. Considering the immensity of the snow mass, the sharp curvatures, and the maximum grade, the management decided to give the new Jull Plow a thorough trial in the area.

The Jull machine consisted of an auger mechanism much like a cork-screw, pointing and driving into the snow and drawing it backward into a ma-



## Historic Alpine Tunnel

chine which then threw it from the right of way. The auger rotated at a speed of 500 rpm.

The Jull had worked successfully on several eastern railroads. Everyone (except the rotary crews) fervently hoped it would solve the snow problems of the South Park.

The trials extended over a period of three days. While Mr. Jull's machine was effective to a large extent, it was not fully successful and officials of the South Park finally decided against it.

These snow-plow trials were described by Cy Warman, in his book, *Tales of an Engineer*, quoted here in part:

### A NOVEL BATTLE

Snow-bucking with a pilot plough is dangerous business. However, there is very little of it to do in these days. Now, a road that is able to accumulate a snow-drift is able to own a rotary plough or snow excavator. These machines are as large as a coach and as heavy as a locomotive. The front end is funnel-shaped; and instead of throwing the snow away it swallows it and then spurts it out in a great stream, like water from a hose at a fire.

Inside the house, or car, there is a boiler as large as a locomotive boiler, with two big cylinders for furnishing power to revolve a wheel in the funnel-shaped front end. This wheel is like the wheel of a windmill, except that the fans or blades are made of steel and are quite sharp. As the plough is driven through the drifted snow by a locomotive, sometimes by two or three of them, the rapidly revolving wheel slices the snow from the hard bank and draws it into the steel chest, where the same rotary motion drives it out through a sheet-iron spout.

Once at Alpine Pass, on a summer branch of the Union Pacific, I saw one of these machines working in six feet of snow that had been there six months and was so hard that men walked over it without shoes. It was about the middle of May; the weather was almost warm at midday, but freezing at night. A number of railroad and newspaper men had gone up there, eleven thousand feet above the sea, to witness a battle between two rival excavators. The trial was an exciting one, and lasted three days. Master Mechanic Egan, whose guest I was, was director-general, and a very impartial director, I thought. The two machines were very similar in appearance; but instead of a wheel with knives, one had a great auger in front, the purpose of which

was to bore into the snow-drift and draw the snow into the machine, as the chips are drawn from an auger hole by the revolving of the screw. The discharging apparatus was similar in the two, and like that already described.

There was a formidable array of rolling stock on the two sidings at the foot of the mountain where we had our car and where we camped nights. On one side-track stands one of the machines, with three engines behind her; on another, the other, with the same number of locomotives. You could tell the men of the one from those of the other, for the two armies dwelt apart, just as the Denver Police kept clear of the State Militia in Governor Waite's war.

It was perfectly natural for the men on the different machines to be loyal to their respective employers and a little bit jealous of the rival crew; but I was surprised to see how quickly that feeling extended to the crews of the half-dozen locomotives, all working for the same railroad company, and in no way interested in the outcome.

On the morning of the first day of the trial, when the six engines came down the track from the coal-yards, a trainman stood at the three-throw-switch, and gave a locomotive to each of the machines alternately. They all knew where they belonged, and they kept the same place, each of them, until the battle was over.

There was no betting, but there was a distinct "favorite" from the start; and when the iron horses were all hooked up, the men on the "favorite" began, good-naturedly enough, to "josh" the other crew. (The rotary was the "favorite.")

Mr. Egan decided that one of the machines should go forward; and when it stuck, stalled, or stopped, for any reason, it should at once back down, take the siding, and give the other a chance.

It was nearly noon when the railway officers and pencil-pushers climbed to the storm deck of the first machine, and the commander gave a signal to start. The whistle "off brakes" was answered by the six locomotives, and the little engine that brought up the rear with the special train. The hungry machine gathered up the light drifts which we encountered in the first few miles and breathed them out over the tops of the telegraph poles. At a sharp curve, where there was a deep drift, the snow plough left the track and we were forced to stop and back out. The engineers looked sullen as they backed down to let the other crew pass, and the fresh men laughed



## Snow and Jull

at them. The snow was lighter now so that instead of boring into it the second plough only pushed it and piled it up in front of her until the whole house was buried, when she choked up and lay down. Now the frowns were transferred to the faces of the second crew and the smiles to the other.

For two days we see-sawed in this way, and every hour the men grew more sullen. The mad locomotives seemed to enter into the spirit of the fight; at least, it was easy to imagine that they did, as they snorted, puffed, and panted in the great drifts. Ah, 'twas a goodly sight to see them, each sending an endless stream of black smoke to the very heavens, and to hear them scream to one another when about to stall and to note with what reluctance they returned to the side-track.

In the little town at the foot of the hill the rival crews camped at different boarding-houses. This was fortunate, for it would not have been safe for them to live together. Even the engine-men by the end of the second day were hardly on speaking terms. Bob Stoute said that somebody had remarked that the 265 wouldn't make steam enough to ring the bell. He did not know who said it, but he did know that he could lick him. After supper that evening, when the "scrappy" engineer came out of Red Wood's saloon, he broadened the statement so as to include "any 'Rotary' man on the job, see?"

When we went into the field on the morning of the third day, not more than seven miles of snow remained between us and the mouth of the Alpine Tunnel, where the race would end, for the tunnel was full of snow. All the forenoon the hot engines steamed and snorted and banged away at the great sea of snow that grew deeper and harder as we climbed. The track was so crooked that the ploughs were off the rails half the time so that when we stopped for luncheon we had made less than three miles.

The least-promising of the two machines was out first after dinner; and as the snow was harder up there, she bid fair to win great credit. She successfully rounded the last of the sharp curves that had given us so much trouble. But as the snow grew deeper she smothered, choked up, and stalled. Then even her friends had to admit, "she was not quite right," and enginemen looked blacker than ever as they backed down and took the siding. Up came the rival, every engine blowing off steam, the three

firemen at the furnace-doors, the engineers smiling and eager for the fray.

As she turned into the tangent where the other had stalled, the leading locomotive screamed "off brakes," and every throttle flew wide open. Down, down went the reverse levers, until every engine in the train was working at her full capacity. While waiting in the siding, the engineers had screwed their "pops," or relief valves, down so that each of the engines carried twenty pounds more steam than usual. There were no drifts now, but the hard snow lay level six feet deep. The track was as good as straight—just one long curve; and the pilots would touch timberline at the mouth of the tunnel. The road here lay along the side of the mountain through a heavy growth of pine. The snow was granulated and consequently very heavy.

By the time they had gone a hundred yards a great stream of snow was flowing from the spout over the telegraph wires and over the tops of the tall spruces and pines, crashing down through their branches until all the white beneath them was covered with a green carpet of tree-twigs. On and on, up and up, the monster moguls pushed the plough. Higher and higher rose the black smoke; and when the smoke and snow came between the spectators and the sun, which was just now sinking behind the hill, the effect was marvelously beautiful. Still, on they went through the stainless waste, not stopped or stalled until the snow plough touched the tunnel shed.

The commander gave a signal to "back up"; and with faces wreathed in smiles and with their machine covered with cinders, snow, and glory, the little army drifted down the hill. The three days' fight was at an end, and the Rotary was the victor.

—Cy Warman

In March, 1905, a rotary and seven engines spent sixteen days blocked by snow at Alpine. This event, as reported in the March 6, 1947, issue of the *Gunnison News-Champion*, is related by Mr. Colin Moore, one of the legendary figures of the South Park and now living in Gunnison.

One-fourth of a mile east of Alpine Tunnel the rotary broke down in eighteen feet of snow and a train was ordered up from Gunnison to help them out. Four engines, with five cars of coal, went up and were stuck on the west side, just west of the tunnel.



## Historic Alpine Tunnel

On March 16 the Baldwin crew went up and succeeded in getting down the hill from the train. This last train plowed back and forth between Pitkin and the nearest they could come to the train. The snow was level with the cab windows. We kept our engines alive by carrying coal about one hundred feet through the deep snow from the Gunnison coal cars and shoveling snow into the engine tank and keeping our heaters on to melt it.

The rotary ran into a snow avalanche which had come from the high mountain above, bringing rocks and trees with it, which broke the blades. The slide was three hundred feet long and eighteen feet deep. It was one-half mile from the east end of the tunnel and two and one-half miles west of Hancock. The rotary blades were carried by the firemen and section men to the Midway water tank. At the tank they were picked up by engine No. 38. They took the blades to the Salida Machine Shops of the D.&R.G. for repairs and brought them back as far as Tunnel

Gulch, where they were carried up the mountain and over the pass to the rotary and installed.

When the rotary was sufficiently repaired, it opened the way down the east slope, permitting the train to be backed down. Our boarding house, for the sixteen days at the tunnel, consisted of two box cars, one a dining room and the other a kitchen. There were two tables down through the center of the car, with benches for seats. For a week the cook fed us three meals a day of bread, meat, potatoes, and coffee.

The second week he reduced the schedule to two meals, with a menu of beans, carrots, and coffee, and he boiled the coffee grounds until they had no taste.

Superintendent Bacon, in Gunnison, said in all the history of the road there was never such a siege as this. The fifty men were sunburned to the color of a boiled lobster and had a luxuriant growth of whiskers. They were a sorry-looking outfit, as most of them had not even had a blanket on which to sleep. The enginemen spent most of the sixteen days on their seats in the cabs of the engines."

## Tunnel Closing

"That Ended Operations on the  
Alpine Division of the South Park  
for the Winter of 1890."  
... and for the next FIVE YEARS!

The St. Elmo items of the *Salida Mountain Mail* of February 14, 1890, stated that the South Park management decided to shut down for the balance of the winter. As it turned out, the Alpine division remained shut down for *five* years. Here is the newspaper story:

Some weeks previously conductor Eaton, with three engines, left Pitkin, starting east with 16 loads of coal. On nearing the tunnel he tried his best to get through, but failing, returned to the station for instructions, and was ordered to get the train through if possible. He returned and made another break, but the wind was blowing a gale and soon the train was snowed in and was compelled to remain on the main line overnight.

The next morning the rotary started from St. Elmo, but, when only a half mile from the tunnel, struck heavy snow and a cog in the small pinion wheel broke, disabling her. The rotary was taken to Denver for repairs. Several days afterward it returned, pushed by four engines. On reaching the point a half mile east of the tunnel, it got stuck. The wind was blowing such a gale that, in a short time, it was completely snowed in. The outfit could not go either way, and to cap the climax the caboose and flanger were blown off the embankment by the winds.

Superintendent Choate made preparations to get the Rio Grande rotary and go to the rescue. He left Como with

four engines, picked up the Rio Grande rotary at Buena Vista, and proceeded on to St. Elmo, where they remained overnight. The railroaders decided not to take the Grande rotary on further west as it had no flanger, and there was a brick arch in the fire box, making it difficult to get up steam.

In the morning the four engines headed up grade, without the rotary, and got one mile west of Romley, where they became stuck in the snow. The rotary company's agent was aboard and he talked the South Park boys into going back to St. Elmo to get the rotary and bring it up. They then broke through as far as Hancock and decided the snow was too deep and went no further.

Orders were given to dig out the road from the east portal of the tunnel, where the engines were stuck, take them through the tunnel and proceed to Gunnison and go over the Rio Grande to Buena Vista.

Large forces of men were put to shovelling snow night and day, and on Thursday morning all the engines and the rotary went through the tunnel. The engines were to haul ninety cars of coal on siding over the Rio Grande, via Marshall Pass, to Buena Vista.

That not only ended operations on the Alpine division of the South Park for 1890, but five years passed before traffic through the tunnel was resumed!



## Curse of Alpine

"There Came A Day When the Clouds  
Lay Heavy on Alpine . . . and There  
Was Not a Breath of Air Stirring."

—Cy Warman

"... built with an appalling cost of lives" is a phrase often used in connection with tunnel building. During the eighty years since the determined men of Alpine started that historic bore, the phrase "Curse of Alpine" has crept into usage, referring to both the tunnel construction and operation.

One writer has stated, "A single premature dynamite blast killed forty-eight workers." A correspondent to the *Pueblo Chieftain* wrote, "Above the caved-in tunnel the mountain rose steeply to that rugged and forbidding Alpine Pass, on whose summit six victims of an explosion are buried in four powder boxes—alone on top of the world." A contemporary author has claimed, "Dozens of lives had been lost in the building of the tunnel."

Explosives were treacherous to handle, especially in freezing temperatures. Of the thousands of men who answered the advertisements and journeyed to Alpine, few indeed had any experience with explosives or, for that matter, with any of the heavy tools used in tunnel work. Danger laid her hand heavily on the shoulders of every worker. If records were kept of fatalities or injuries, they are not available. The author could locate *no* specific records of serious injuries or deaths during the digging of the tunnel. Art Pearson, of Pitkin, recalled no stories of this nature and flatly stated that, to the best of his belief, no one was killed at Alpine. Bill Turner, of Buena Vista, a lifelong resident of the Chalk Creek country wrote, "I remember hearing of some accidents at Alpine, but I can't remember any of the details." S. E. Land wrote in 1882, "No lives have been lost during the whole working of the tunnel."

So, it would appear, if there were fatalities and serious injuries, they were something less than "appalling."

But, as the years passed and under such difficult operating conditions, it was inevitable that tragedy

would strike. And strike it did! Not once, but two times, within a period of just a few days.

Early in May, 1895, the railroad sent gangs of workmen to Alpine in an effort to clear the tunnel so traffic could be resumed. There had been one cave-in of considerable size, plus heaps of rubble throughout the tunnel.

The first tragedy, as reported in the *Colorado Democrat*, Buena Vista, on May 29, 1895, follows:

Serious Accident, Two Men Killed  
and Eleven Others Injured, More  
or Less . . .

Last Friday evening, thirteen men, employed at the Alpine Tunnel, having completed their day's work, boarded an ordinary push car and started down the road to Hancock, a distance of three miles from the tunnel, where they boarded. In some manner the car got beyond their control and started down the grade at a terrific speed. The men became panic-stricken and began jumping off, thus receiving their injuries, which were not fatal except in two instances. Charles Michaelson was killed instantly.

The injured were soon picked up under the direction of superintendent Rainey and brought on a special train to Buena Vista where Drs. Cole and Lanterman were called and gave the men their first medical attention. As soon as their wounds were dressed the men, with the exception of Michaelson, were again placed on the train and the journey resumed to Denver, where the men were placed in St. Luke's Hospital. The best care possible was given them, but, despite that, John Brady, who was badly injured about the head, never regained consciousness and died at Denver Saturday afternoon, making two who lost their lives by that terrible leap.

As far as can be ascertained, the men were alone to blame for the accident, they having started with no adequate means of checking the speed of the car.

Just a few days after this accident, death visited Alpine again, this time deep in the gloomy blackness of the bore.



## Curse of Alpine

True to Death!  
Three Brave Railroad Men,\*  
Old Citizens of Gunnison,  
Are suffocated in the Alpine Tunnell

This heart-rending account of the second tragedy appeared in the *Gunnison Tribune* of June 14, 1895, and is reproduced in its entirety:

Never before in the history of Gunnison has such a calamity befallen the whole community as that which occurred last Saturday, the pages upon which were closed three days later. To see three citizens who have been identified with the town for many years, who were heads of families all depending upon them, to see them snatched into the jaws of death without a moment's notice is a misfortune that causes sorrow to permeate every household.

The whole community mourns with the families for the loss of M. W. Flavin, Nathan Martenis, and Michael Byrnes, because they could least be spared at a time when the services of such men are needed in the development of the country. It was through their unceasing toil that the South Park road kept a train on this side of the divide for a number of years, and in a large measure they were responsible for leading the receiver of the road to become satisfied that it was an excellent stroke of wisdom to again open the Alpine Tunnel route.

When it was determined to open the tunnel, naturally enough the officers pointed to Mike Flavin and "Dad" Martenis as the proper men to do this work, they knowing better than anyone else the exact condition of the road and what was needed. Accordingly, the former was made superintendent of work west of the divide, while the latter handled the motive power. The train crew, composed of N. Martenis, engineer, Michael Byrnes, fireman, Elmer England, conductor and Henry Williams, brakeman, made regular trips each week between Baldwin and Pitkin, spending the balance of the time distributing ties from Quartz to the tunnel. Mr. Flavin left home about the 1st of May and never saw his family again. He never lagged a moment, but pushed the work of getting trains through with all possible vigor. On the brink of succeeding, oblivious of the dangers which surrounded him, he met death along with three other unfortunates.

Alpine Tunnel had practically been abandoned for

a number of years, and about 250 feet from the eastern entrance the timbers had given way, thus causing the tunnel, for some distance, to become filled with debris. It is constructed in such a shape that each approach to the summit in the tunnel is considerably upgrade, the highest point being about the center of the tunnel, which, it must be remembered, is some 1,900 feet long. The construction was made in this shape to enable large amounts of waters to pass away.

The cave-in occurring near the eastern entrance, there was no escape for the water, so it backed up for quite a distance and prevented the work of removing the debris from both sides. The regular men employed on the road not being experienced in handling rock work, Mr. Flavin secured A. Jeune and a number of miners from Pitkin to timber up the cave and remove rock.

Mr. Flavin thought that, in order to expedite the work and give an opportunity for operation at both entrances, he would put an engine in the tunnel and syphon the water out. Mr. Flavin did not then realize any immediate danger and according ordered the crew into the fatal tunnel last Saturday afternoon about 4:00 o'clock to pump out the water. It was difficult to keep up steam and the fireman finally had to put on the blower. On the engine were Flavin, Martenis, Byrnes, and England, while a half dozen laborers were around near.

In a short time the smoke and gas became disagreeable. England and a number of others, started out of the tunnel, being almost overcome. One man fainted and fell on the track, while others had to be assisted. They got a push-car and went back into the tunnel for the men who had fallen unconscious. In the meantime, while the engine was still pumping, another laborer climbed on the engine and, noticing that Flavin was gasping for breath, told him they better get out quick. Flavin was so near gone he could not speak. The man left the engine and started out. By the aid of his torch he ran across the man who had fallen and in a moment heard the engine coming up the grade. He walked back to meet it and called to "Dad" that there was a dead man on the track ahead. He says "Dad" immediately shoved the lever and the engine plunged forward down the steep incline. He is of the opinion, and the circumstances bear him out, that, as "Dad" placed his hand on the throttle to shut off the steam, he fainted, for several hours later this same man car-

\*Including Oscar Cammann, who did not live in Gunnison, four lives were lost.



## Historic Alpine Tunnel

ried the engineer from his cab and his hand was on the throttle, thus showing that he died as a brave man. Elmer England learned of these facts and made three desperate attempts to reach the engine, thinking that if he could do so he could run it out and save all; but the last time he was overcome and sank upon the cold rails in an almost lifeless condition. The other man also attempted to rescue the crew and in doing so found Elmer's body. He was placed on a push car, unconscious, and Andy Lejune brought him to Pitkin, where he finally revived about midnight Saturday.

For the next four hours, men worked as only men could to get to the engine, and it was about nine o'clock before the fire had sufficiently died and the smoke escaped, allowing them to reach the locomotive.

When they did so, their gravest fears were realized. Lying in the tender near the firebox was the body of Flavin, while on the engineer's side sat "Dad" Martenis, his head leaning out of the window, hand on the throttle. Fireman Byrnes had evidently fallen out of the cab, for he was found about ten feet behind the engine, in two feet of water, his face and head slightly bruised. These were the only scratches on any of the dead men. The engine had run into the rock and mud, and the pilot and headlight were broken. The bodies of Flavin and Martenis were warm, but Byrnes was stiff and cold. The men did everything they could to revive them, but all efforts proved futile.

Ernest Miller was timbering near the East Portal, under the direction of Andy Lejune, of Pitkin, who was superintending the attempted opening of the tunnel. With him was another workman, Oscar Cammann.

Two times the pair entered, hoping to get over to the west side through a connecting hole which had been excavated at the apex of the cave-in. Cammann wished to recover his coat, which had been left on the other side.

"Let's hold each other's hands and try it," urged Cammann a second time. Miller demurred, but finally agreed. The smoke forced them out. His com-

panion was determined to make a third attempt. He retrieved the coat which he had left where he had been working and climbed the scaffolding used in the retimbering work, expecting to crawl through the hole to the other side, since he was living near the West Portal. Overcome by the fumes, he fell from the scaffolding and was found dead on the floor of the tunnel.

"They are all dead in there!" was the next intelligence conveyed to Miller from the west side. Cammann was lifted the sixteen feet to the hole connecting the two parts of the tunnel and taken with the bodies of the other three to the West Portal.

Early Sunday morning Elmer England rode on a push car to Parlin and caught the incoming passenger. His arrival here was the first Gunnison people knew of the affair. Efforts had been made during the night to get the news here by telegraph, but no one could be aroused either at the South Park depot or Western Union office.

Words could not express the grief of the three families, who had looked anxiously Saturday night for the men to come home and were suspicious that some accident had happened to them.

The Masonic Fraternity, of which Flavin and Martenis were members, soon secured an engine and coach from the Rio Grande and started for the tunnel, accompanied by a Tribune reporter. When within about three miles of the tunnel, the men were discovered carrying the bodies on stretchers. They were placed in the car and brought to Gunnison at seven o'clock, being met at the depot by a very large crowd of sympathizing citizens. Tuesday morning at ten o'clock the funeral of Mr. Flavin occurred at the residence, being conducted by the Masons. At one o'clock the funeral of Mr. Byrnes took place from the Catholic Church, and at five o'clock all that was mortal of Mr. Martenis was laid to rest according to the Masonic Ritual. Each casket was almost entirely covered with fragrant flowers, while the processions were the largest ever seen in Gunnison.

The whole community deeply mourns the loss of these men, and the sorrowing relatives have the undivided sympathy of the people.

# Reopening of Alpine Tunnel

Through the Divide!  
Alpine Tunnel, the Wonderful Thoroughfare,  
Hewn in Lofty Mountains.

With the reopening of the Alpine Tunnel in 1895, through rail traffic was resumed between Denver and Gunnison. In 1895 the South Park was operating as the Denver, Leadville and Gunnison Railway Company, with Frank Trumbull as Receiver and General Manager and T. F. Dunaway as General Superintendent.

Towns along the line were jubilant, as witnessed by the following article which appeared in the *Chafe County Republican* of July 3, 1895.

The re-opening of the Alpine Railway Tunnel is like the creation and throwing open of a thoroughfare through the Rocky Mountains, new to the world and the production of fresh panorama, inlaid and outlined with delightful attractiveness for tourists and lovers of that which is grand and enchanting. The event awakens memories of earlier days almost forgotten in Colorado, when the beautiful valleys on either side of the range of lofty mountains pierced by the tunnel, to which the sturdy locomotive climbed on the strands of steel, weaving at every curve and tangent, visions most bewilderingly picturesque were famed among tourists all over the world.

It was the home of the snow king that civilization had invaded, and the silent, snow-hooded monarchs, which had grimly and faithfully stood vigil for ages unrelentingly opposed the disturbing of the primeval silence. Blanket after blanket of their white mantle was folded about their rugged sides and lapped in the little valleys between, piling high over the habitations and covering deeply the lines of steel twining about their bases.

As the locomotive heads for the gap in the mountains, the heart is filled with buoyancy and delightful expectation. The peak seems to grow higher as the approach is made. Heading right up in the snow banks, tiny streams ramble down the mountain slopes which gradually come together, forming a stream of large size called Chalk Creek. The name, no doubt, was adduced by a high, chalky cliff rising abruptly midway up the valley, but, in unison with the surroundings, a more romantic name might have been applied. Chalk Creek, however, has its charms, and, as the train pants along its edge, miniature cataracts and falls bring forth exclamations of delight from the passengers.

About eight miles out of Buena Vista, a most remark-

able collection of thermal springs are found which are said to have been the mecca of the aborigines for ages. The water is intensely hot and has a peculiar property of counteracting poison, it is claimed. It may be only a story, but when the native Indians engaged in warfare in the early days, poisoned arrows were used in destroying enemies and the Utes used to say if one of their number was wounded by an enemy's arrow and could live long enough to get to the springs where he could be dropped into the steaming water all the poison would be boiled out of his system. "Cu-na-pa Ma-chu-chen-up" or firewater medicine, they called it.

The accommodations are crude at the springs, but a short way up the gulch a magnificent structure is presented as the train winds around the curve. Here stands a four-story hotel, artistically planned, all enclosed and finely arranged and finished for an ideal mountain resort. The place is called Hortense Springs. The building has never been occupied, though some ten thousand dollars was expended in its structure and in securing possession of the grounds surrounding it.

At one time Chalk Creek was a busy place from one end to the other. The railroad was building up the creek to pass through the mountains to Gunnison, and on both sides deposits of mineral were found and several prosperous mining camps were started.

Ore was found in abundance in other claims besides the Murphy mines, but of a low value. Owing to the inaccessibility of the place in winter, the mines were given up and they became abandoned, and thus it is that, en-route to Alpine Tunnel, several towns—the buildings in a greater or less state of dilapidation—are passed without a human being in sight.

It is not an uncommon thing for the snow to gather to a depth of thirty feet near the entrances of the tunnel, covering the railroad track and sometimes blockading section men for weeks. To keep the line open on either side became too expensive for the company and some five or six years ago all efforts to re-open it for summer traffic were abandoned, notwithstanding it was with many the most popular tourist route in the state. All manner of snow engines were brought into use to clear the track



## Historic Alpine Tunnel

but none of them were successful. Thus it was that several of the mining camps became deserted, because of the short seasons and the abandonment of the tunnel.

The surroundings of the Alpine Tunnel are most captivating in summer. Snow lies in perpetual blankets on either side all the summer through, and it seems as if the seasons unite at that place, for flowers, bright and fragrant, fill the air with their perfume, and the songs of bright-winged birds trill through the stillness. It is summer, with fragments of winter lingering with it.

The credit of re-opening the Alpine Tunnel route be-

longs to general superintendent, T. F. Dunaway. Although he has had experience but for a short time in mountain railroading, he has shown a marked degree of aptitude and his long experience in handling railway operations seems to have fully qualified him for the move taken in the Alpine Tunnel route. Mr. Dunaway believes that the line can be kept open all year round. He has given the situation careful study and many preventive measures will be taken to provide against blockages in the future. With the line open and kept open, the deserted mining camps will doubtless be revived and traffic will be again threading through the eye in the Saguache Range.

JOHN EVANS, PRESIDENT.  
W. A. CHEDMAN, V.-PRES.

O. B. KOUNTZE, TREASURER.  
CHAS. WHEELER, AUDITOR.

C. W. FISHER, GEN. SUPERINTENDENT.  
A. S. HUGHES, GEN. FOT. & PASS AGT.

## Denver, South Park & Pacific R. R. Co.

GEN. SUPERINTENDENT'S OFFICE.

DENVER, COLO.,

*Dec 1<sup>st</sup>* 1879

*Engineers on all trains:*

*Allow*  
*Col. L. H. Eicholtz, Chf. Eng.*  
*to ride on your Engines when*  
*he drives*

*C. W. Fisher*  
*Gen. Sup.*

That Col. Leonard H. Eicholtz held a position of unusual authority is evidenced by this extraordinary pass. Found among the personal journals of Leonard H. Eicholtz, Archives, University of Wyoming.

# The Dome of the Continent

The South Park and the Alpine Pass

By J. W. Freeman

The re-opening of Alpine Tunnel and the resumption of traffic over the Gunnison Division was highly successful, both aesthetically and financially. To glamorize the Alpine trip, Mr. Frank Trumbull published a striking advertising folder, written by J. W. Freeman in flowing prose designed to inspire passenger traffic. It is reproduced from the only known copy existent, now in the archives of the Western History Department of the Denver Public Library.

The trip to Gunnison, over the Southwestern branch of the South Park line and through the Alpine Tunnel, and the journey over Boreas and Fremont passes to Leadville are almost necessary adjuncts to complete the impressions received by one who has been so fortunate as to look upon the matchless glories of South Park.

From Como the Gunnison division leads South, threading for many miles the border of the park, within view of numberless mountain peaks, sparkling rivulets that are fed by perpetual snows, and the old stage road over which thousands of eager fortune hunters, in years gone by, wooed the fickle goddess. Crossing the South Platte River, which takes its rise at the base of Mt. Lincoln, we soon reach the headwaters of Trout Creek, which runs southwest to the Arkansas, through a valley and a gorge of great beauty.

Near McGee's station we see, on the left, the rarely colored and impressionistic Rainbow Rocks. The valley of the Arkansas soon comes into view, disclosing Buena Vista, so appropriately named, beyond which the plucky little engine soon encounters again the steep slopes of the Continental Divide. The Collegiate Peaks—Harvard, Yale, and Princeton—arise in solemn grandeur on the right. Each of these noble mountains is loftier than Pikes Peak; the one in the center is Yale, with Harvard to the right, Princeton to the South.

By far the best view is to be had from the vicinity of Schwanders station, just South of Buena Vista. The train stops at the foot of Mt. Princeton, to give the passengers

an opportunity to taste of the remarkable springs of hot and cold medicinal waters (there are nine), which burst from the earth as if forced up by a great pressure from volcanic depths below. Little mining towns are seen nestling in the valleys or on the mountain sides, as the train progresses towards Alpine Pass, through charming Chalk Creek canon, which, although not so narrow as Platte Canon, presents an original form of majestic grandeur. At the summit of the pass is Alpine Tunnel, the highest railway tunnel in the world and the highest railway point in North America. At an altitude of 11,660 feet, the dome of the continent is here reached, and thence to Gunnison the route is downward.

The train is now on the Pacific slope. The Palisades are at hand. The scene is one of such transcendent and noble beauty that it would be sacrilege to pass by without stopping. On one side, a mighty wall of stone, along the face of which a narrow shelf has been blasted to make room for the railway track; on the other, an enchanting valley whose farther limits no eye, except the eye of Omnipotence, can penetrate. In the presence of this majestic scene, is it any wonder that our excursion party, as if by one common impulse, gathered on the edge of the fathomless precipice and united in that grandest of all hymns, "Nearer My God to Thee"? Hats were removed, and there was not a dry eye in the assemblage when the last notes died away. The scene is one of the grand panoramas of the earth. Once witnessed it is never forgotten.

From the Palisades to Pitkin, a distance of barely thirteen miles, the little train descends more than two thousand six hundred feet. From the track on the rock ledge to the track to be seen so far below, the fall is nearly one thousand eight hundred feet, and the distance to be traversed by rail about nine miles. The remainder of the journey leads past stupendous chasms and through fertile valleys to the repose of the picturesque city of Gunnison.

Published and Copyrighted in 1896.

Issued by the Passenger Department,  
South Park Line, B. L. Winchell,  
General Passenger Agent, Denver, Colo.



## Alpine Tunnel Abandoned

"Much to the Regret  
of Gunnison Folks. . ."  
—*Gunnison News-Champion*

A contemporary writer said, "On either side of the tunneled mass great activity prevailed and the chain of commerce and travel threaded through the mountain with wonderful volume. The shout of the prospector rang out among the higher cliffs, and the whistle of the locomotive was revoiced until tossed beyond the tops of the peaks into the fleecy drapery of the clouds.

"Insurmountable obstacles and discouraging difficulties wearied the hands breaking the silence . . . and the scenes of activity ceased. The section became abandoned."

The great Alpine Tunnel was closed!

Final word was had by the *Gunnison News-Champion* on October 14, 1910, which is quoted as follows:

Much to the regret of Gunnison folks comes the positive information that the management of the Colorado & Southern has decided to close the road from here to Denver for the winter, and perhaps permanently, hauling its Baldwin coal and its Pitkin and Ohio City ores out over the Rio Grande. A mixed train will be run each way every day between Gunnison and Pitkin and also between Buena Vista, St. Elmo, Fairplay and Denver on the eastern end of the

division. All the Baldwin traffic will be hauled via the Rio Grande, and of course the incoming and outgoing freight for towns and mines along Quartz Creek must travel over the Grande and Marshall Pass.

What the spring will bring forth is a question, but already the cattlemen of Gunnison County are greatly inconvenienced. It is a hundred miles shorter to Denver for the entire western slope and the management of that road is missing the greatest industrial opportunity of the times in not making a through line of it to the vast developing agricultural country west of us. Of course the road had to be better or worse right speedily. It would have required a broad gauge, a new two and a half mile tunnel under Alpine Pass and seventy-five miles of extension, but in comparison with the business to be developed and the certainty of coal, cattle, hay, fruit, mail and passenger traffic that would have made this, like the third division is to the Rio Grande, the best paying branch on the system, the investment would only have been slight compared with the ultimate return.

Another contemporary writer observed, "No more the chain of commerce threaded the darkened opening high up in the rock-walled barrier, and the few remaining inhabitants, practically isolated, were placed beyond the pale of civilization."

The Alpine Tunnel quietly slipped into history.

## Details of the Alpine Tunnel

### Work started

January, 1880

### Headings Breached

July 26, 1881

### Length

1771.7 feet

### First Engine Through

December, 1881

### First Train Through

July 19, 1882

### Last Train Through

November 10, 1910

### Altitudes

Altman Pass	11,940.
West Portal	11,521.13
East Portal	11,496.50
Tunnel Apex	11,523.70

### Ascent

West Portal to Apex	2.57 feet
East Portal to Apex	27.2 feet

### Average Grades

West Portal to Apex	0.42%
East Portal to Apex	2.40%

### Ruling Grades

West Portal to Apex	0.55%
East Portal to Apex	2.65%

### Distances

West Portal to Apex	600 ft.
East Portal to Apex	1,171.7 ft.

### Composite Minimum Dimensions

Width at Rail Level	8' 10"
Width at Spring of Arch	10' 10"
Height Above Rails	13' 9"

### Composite Maximum Dimensions

Width at Rail Level	14'
Width at Spring of Arch	16'
Height Above Rails	25'

### Volume of Solids Removed

Dirt	2,000 cu. yds.
Rock	14,000 cu. yds.

### Total Working Time

Excavation	700 days
Average per day	2.53 feet

### Acquisition of Land at Alpine

Act of Congress May 1, 1879	66.97 acres
Act of Congress May 1, 1879	25.90 acres

### Accuracy of Engineering

Headings within 11/100ths ft.
Distance within 7/100ths ft.
Level within 94/100ths ft.

### Cost

Information differs widely.

C. F. R. Hayward	nearly \$300,000
Engineering News	\$275,000
(Contract, Jan. 14, 1882)	

Don Smith	\$242,000
Louisa Ward Arps	\$120,000
Chas. W. Mueller	\$242,090
C. & S. Ry. Co. (est.)	\$177,170
Mac C. Poor	\$242,090
George Roche	\$120,000

### Railroad Tunnels Through The Continental Divide, in Use in 1963

Tennessee Pass—Denver & Rio Grande	
Altitude	10,221 ft.
Length	2,550 ft.

Moffat Tunnel, James Peak, D&RG	
Altitude	9,198 ft.
Length	6.2 miles

(Only two transcontinental rail lines cross Colorado east to west and BOTH tunnel under the Continental Divide)



## Elevations of Various Interesting Points in the Alpine Tunnel Area

Altman Pass	11,940	Unnamed Mt. East of Tunnel	12,440
Williams Pass	11,762	Unnamed Mt. East of Chapman	13,081
Hancock Pass	12,125	Van Wirt Mt.	13,056
Tomichi Pass	11,979	Mt. Antero	14,269
Cottonwood Pass	12,126	Mt. Princeton	14,197
Tin Cup Pass	12,154	Hancock	11,034
Marshall Pass	10,845	Woodstock	10,700
Fremont Pass	11,320	Gunnison	7,703
Tennessee Pass	10,424	Buena Vista	7,955
Old Monarch Pass	11,375	Sherrod	10,963
New Monarch (Agate) Pass	11,302	Palisades	11,300
Independence Pass	12,095	Pitkin	9,241
Mt. Chapman	12,784	St. Elmo	10,012
Brittle Silver Mt.	12,400	Romley	10,552
Paywell Mountain	12,275	Alpine Station	11,462
Unnamed Mt. West of Tunnel	12,858	Nathrop	7,690

Elevations Authority U. S. Dept. of Agriculture  
Forest Service  
San Isabel National Forest

## PERSONAL STORIES

*Railroads are made of  
many things,  
of rails and ties and cinders,  
of locomotives and kings.*

The "kings" were the men who went forth each day, with determination and fortitude, and with their bare hands made the railroad run.

The construction engineer applied his skill and

training so the railroad could be built. The investor provided the money. The trainmen devoted their lives in unselfish service.

The following interviews are with men of the old South Park . . . men who operated those little trains more than half a century ago.

It was an age of greatness and these are some of the dedicated men who lifted it into history!

### Charles C. Squires

Alpine Pass in the Nineties . . .  
As Related by "The Yellow Kid  
of D. L. & G."

Charles C. Squires, one of the legendary figures of the old South Park, devoted his entire life to railroading. During his years in retirement, he recounted many of his experiences, in prose and verse. Following is one of his fine stories told in his own words:

"Back in the fall and winter of 1897, I was brakeman on the narrow-gauge Denver, Leadville & Gunnison R.R. and was assigned to a crew known as the Pitkin Turn-Around.

"One bitter cold morning with the thermometer indicating 38 degrees below zero, we were called to leave Gunnison at 3 a.m. In those days a brakeman had to be Jack-of-all-trades. Besides getting the supplies to the caboose, such as coal oil for the lanterns, oil and waste for packing the 'hot boxes,' and not forget to have a supply of both round and flat coupling pins and links, we had to examine the brake rigging, taking up the slack where needed, in the 'dead levers.' Then we had to examine and see that the air-brakes were cut in on all the cars and that none of the gaskets were leaking (which very frequently had to be thawed out or changed).

"Well, there was so much work on that frosty air line that we didn't get out of Gunnison until 7:00 a.m. It took us until 10:00 to reach Pitkin, 30 miles up that moderate grade.

"After supplying the three engines with sand, coal and water, we went up to the 'Beanery' where all hands took on a good feed, after which we figured we were in shape to tackle the hill to the tunnel.

"We left Pitkin at 11:00 a.m. with 12 loads and 3 engines. The snow was two and one-half feet on the level. We lightened up by setting out 3 of the loads at Valley Spur, so we were able to make the hill without much trouble.

"After looking over our train and brake equipment at Alpine Tunnel, we passed through the tunnel and let them down to Hancock, where we set out our train, gave the engines water, and returned to Alpine Tunnel. We stopped just long enough to eat, then dropped down the hill to Pitkin, arriving at about 4:00 p.m.

"We went at our switching and dug out 7 loads



## Historic Alpine Tunnel

of coal and got them ahead of the 'Crummy' and gave the 3 engines their coal and water, and, by the way, the coal didn't just fall out of a coal-chute into the tank. It had to be elevated from a platform with a scoop and man-power to the tank of the engine. Well, after availing ourselves of a good chance to eat again, we started up the hill once more, at 5:30 p.m.

"We picked up the 3 loads we had left at Valley Spur, on the previous trip, making us 10 loads for the worst part of the hill.

"We arrived at Woodstock Tank about 8:00 p.m. and found the tank froze up. We had stopped a little short of the tank and cut the two lead engines off and eased them up to the tank. We finally got the feed pipe thawed out and gave them water and then backed up and coupled on to the train. To make things more interesting, we found that the train was froze up, so we cut off three loads, the rear one of which was a load of slack on which my partner and I rode, and doubled to the tunnel.

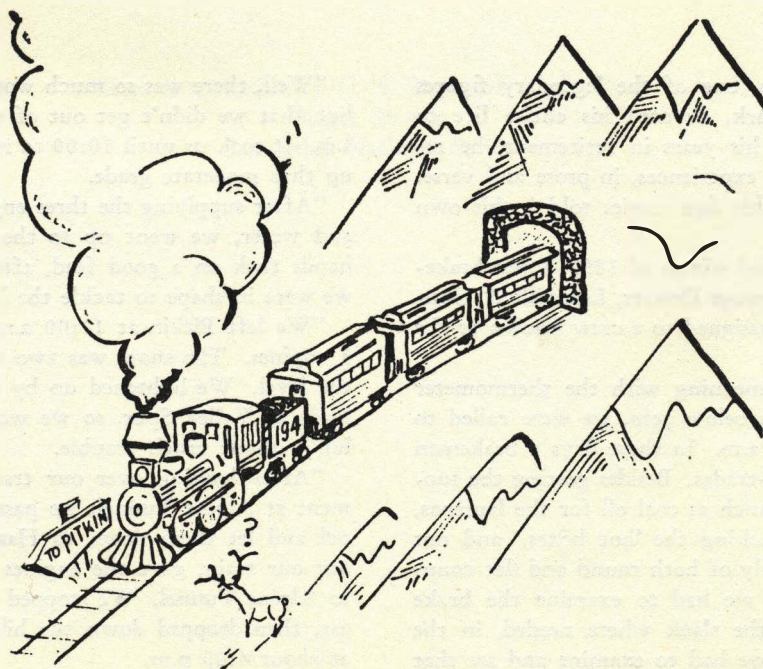
"I was wearing cotton socks, common shoes and

3-buckled overshoes, while my partner had on German socks and Arctic overshoes.

"I kept walking up and down that gon of slack, but he sat down on the edge of the car with his feet hanging over the side of the car. I told him he had better get up and keep moving about to keep the blood in circulation, but he figured that he had his feet protected and they would be all right.

"After we had set out our train at Hancock and returned to Alpine Tunnel, we all went into the depot for orders and were hovering around the stove when my partner discovered that his feet were frosted and pained him so much that he cried like a baby. Mine were pretty cold, but I escaped the frost.

"We were about to start down the hill again, when the fireman on the lead engine discovered that part of his grates had fallen through and were gone. Well, we hunted around in the snow and found some angle-bars and patched up the grate, for temporary, and then slid back down the snowy hill to Pitkin. We were on the road 82 hours continuous time."



## Delor J. Cyr

"Our engine turned on its side  
and slid down the hill several  
hundred feet!"

In February, 1961, Posseman W. Scott Broome of the Denver Posse of The Westerners, interviewed Mr. Delor J. Cyr, former South Park railroader, at his home in Denver. We quote, in part, from this interview as it appeared in the *Denver Westerners Roundup*:

"The following account is the result of a personal interview with Mr. Cyr at his home in Denver and is couched in his own words and expressions as nearly as my notes and recollection will permit. Mr. Cyr retired [from the South Park] in 1939. His story follows:

"In January of 1901 I hired out as a roust-about and mechanic's helper in the roundhouse at Como. About two years later I was transferred to Pitkin, some thirteen miles west of the Alpine Tunnel, as engine watchman, taking care of from four to fifteen engines at one time, with the temperature below zero most of the winter. This was an awful deal, and I had to be extremely careful to keep the engines from running out of water. Made up my mind to go into train service. Until then I had been thinking of continuing in engine service, but a certain incident changed my mind.

"I was firing for Ed Gross on Engine No. 37. We left Pitkin going East, met a crew at St. Elmo, and turned on the wye at Hancock. There had been a lot of trouble with engines between St. Elmo and the Mary Murphy mine and the Romley Mill. We put a train together, consisting of six engines, a combination car, and a caboose, and started back toward the tunnel and Pitkin. Awful snow and wind, with drifts as high as a horse. We started bucking snow, taking one shot after another at the drifts. Finally an angle bar broke on the right-hand side, and old No. 37 began to tip! John Carlson, the section foreman, was on the engine, standing behind Ed Gross. I jumped out, banging my foot on the end of a tie and hurting it, but I managed to grab the rail and stay on top. Gross and Carlson

could not get out. The engine turned on its side and slid down the steep hill several hundred feet. They were scalded some by steam and hot water, but were not badly hurt. It was impossible to get engine No. 37 back up the hill in the winter weather, and it stayed there until spring. Even then they had to build a track on a long incline before the engine could be rerailed. When I reached home at Pitkin, I had a story to tell my wife, and I said to her I had made my last trip firing.

"After this trouble I was held at Pitkin for a while before I was able to persuade the superintendent to put me in train service as a brakeman working out of Como."

The remainder of this interview relates Mr. Cyr's experiences on the High Line, between Como and Leadville.

In the foregoing article, Mr. Cyr answers a question that is often asked regarding mountain railroading. "How did they get the engines and cars back on the rails, after they had slid down an embankment?" No narrow-gauge railroad of that era possessed huge cranes or such modern equipment as we see these days. It was often done just as Mr. Cyr tells — "the workmen cut a shelf along the side of the hill, rails were laid, and the engines rolled back to the main line over them. It was tedious, back-breaking work — and expensive! The old-fashioned block and tackle were used wherever possible, when engine or cars were not far from the rails. Usually the power for the block and tackle operation was supplied by an engine."

In September, 1961, the author spent an engrossing afternoon with Mr. Cyr at his home in Denver. Delor Cyr was born in Canada; his family moved to Colorado when he was just one year old. His father spent his lifetime in mining and ranching in the high country. Mr. Cyr attended school at Rom-



## Historic Alpine Tunnel

ley. His good friend, John Taylor, who worked at the Mary Murphy mine, owned a hand car, which he would lend to the village youngsters, who would pull it with ropes from Romley to the east portal of Alpine Tunnel and then ride it back down the long, steep grade.

As a youngster, it was often his privilege to ride free on the South Park trains, and from this, railroading got into his blood. After some years as a brakeman on the line, Mr. Cyr became conductor, and he was the conductor for Curly Colligan for thirty years. Both Curly and his brother Tom were friends of his.

In his lifetime of railroading Mr. Cyr made countless trips over the hill and through the "hole." Grades all along the South Park were so steep, he said, that the little engines burned more coal than

they hauled. Many of the coal cars were so bellied out that they cut into the upright timbers of Alpine Tunnel, in some places as much as halfway through.

Passing through the tunnel, the brakemen and the conductor would lie down on top of the coal, as their orders required them to ride "out." Coming out of the tunnel, eastbound, they would take up the slack, turn up all the retainers, and then hold the train back by braking with both air and clubs in the descent to Hancock. Very seldom did the engine fumes inside the tunnel bother the trainmen.

Engine No. 60, now permanently displayed at Idaho Springs, occupies a very special place in Mr. Cyr's memories. With Sharkey Gross as engineer, old C.&S. 60 pulled many of Mr. Cyr's trains.

Delor J. Cyr has reached the wonderful age of 90, but his zest for railroading has not dimmed a bit over the years!

Countersigned	1880.	<b>Denver, South Park and Pacific R. R.</b>	
		<b>EMPLOYEE'S PASS.</b>	
		<b>PASS</b> .....	
		From.....	To.....
		Why issued <b>1880</b> .....	
		<small>NOT TRANSFERABLE. Employee assumes all risks of accident to their person or property, without claim for damage on the Corporation.</small>	
	Good for one Trip only, until <b>1880.</b>		
	When countersigned by <i>L. H. Eicholtz</i>		
	<i>C. M. Fisher</i>		
	<i>Gen Sup</i>		
	No. <b>1375</b>		

Unused trip pass, countersigned by Leonard H. Eicholtz while he was chief engineer for the Denver South Park and Pacific. In 1880 the rails had not yet reached Alpine Tunnel. Found among the Eicholtz personal journals, Archives of the University of Wyoming.

## Art Pearson

"I own all the property at the west portal of the Alpine Tunnel, including the rails still inside of the bore!"

Art Pearson was born in a log cabin just above Pitkin the year following the completion of Alpine Tunnel. He has lived in the Pitkin country all his life and is now mayor of Pitkin. Few, if any, living men were more closely associated with the old South Park railroad than Art Pearson. From the time he was old enough to toddle and on through an adventurous boyhood and manhood, Pearson was acquainted and on cordial terms with every railroader on the Gunnison district. Once, as a very young boy, he took the tunnel telegrapher from Pitkin to Alpine by horseback on a bitter winter night. Pearson's father was in charge of the relief party following the Woodstock slide.

"To the best of my knowledge, not one single life was lost during the building of Alpine Tunnel. My father knew most of the men who worked on the bore, and he was at the site many, many times during construction. I never heard him mention a death up there," Pearson said. "As I grew older, countless stories were told about the tunnel, but I don't recall ever hearing about a fatality. I just don't believe any lives were lost during construction. It's true, there were several killings in fights among the workmen of the various work camps building the grade into Pitkin. At one camp, a few miles above Quartz, three men were killed that I know of."

He recounted stories of wild week ends, when tunnel workmen came down to Pitkin for relaxation. "Pitkin had 23 saloons and 16 girly-houses at that time, and it didn't take much to brew trouble among the tired, lonely men who worked long and hard in the cold weather at Alpine," he recalled.

All blasting in the tunnel was done with black powder. Pearson said that until recently many of the old 25-pound and 100-pound empty powder cans could be found around the tunnel. Black powder created suffocating fumes and smoke, when discharged, and Pearson described the huge pipe and handblower used at the tunnel to keep the air fresh.

The fan-type blower was reversible so blasting fumes could be drawn out or fresh air blown in. The air pipe, about 18 inches in diameter, ran from the outside right to the tunnel heading.

During dismantling operations a huge slide near the Palisades prevented Bill Turner from removing the track from that point to the west portal. Pearson later salvaged these rails which were sold to Ben Grimes and taken to the Smuggler mine at Telluride. "We couldn't get that iron past the Palisades, so I paid a dollar each to have the rails skidded down Tunnel Gulch," he said.

"I've heard it said that the telegraph lines ran through the tunnel, which isn't so. Wires ran on poles over the top of the pass. The forestry people have cut nearly all those poles down by now. You can see that they were fine, solid cedar, because many are still standing over on the Hancock side. Telegraph boxes were installed on those poles about every mile, so the trainmen could call for help in case of trouble."

"I have always understood that the stones used in building the great rock wall at the Palisades were cut and brought down from west portal. The granite up there is exactly like that used in the wall," Pearson said. "They did that wonderful stone work with a 'tap and die' process. They would use small hand drills and drill a long, straight row of small holes and then insert a screw die, or tap, into each hole. By gradually increasing the pressure on each tap by means of the turn handle on top, they could get those clean, sharp, square breaks that enabled the crews to lay up that huge wall without mortar. Next time you are up there examine those stones carefully and you will see the drill holes along the edges."

"The heaviest grade on the whole South Park was right here at Pitkin. There is a stretch of 5% grade



## Historic Alpine Tunnel

going north out of town. This was done on purpose, to test the trains heading for Alpine. If they could get over that 5% grade with their drags, they could make the tunnel.

"Sixteen to twenty engines were always kept here in Pitkin, used mostly as 'helpers' for eastbound trains. In those days the engineers and firemen had to load their own coal, but they soon found that we youngsters would coal-up for them. The reward would be a ride on the engine—with a few moments of 'running her' thrown in. How we kids would work!" Pearson said.

"One New Year's Day, about six of us rode up to Alpine with Charley Graves, but an official forbade our riding back. We watched a long freight pull away from Alpine. Then I hustled down the [Tunnel] gulch and as the train pulled out of Sherrod Loop I scampered aboard a flat car. The other kids tried to walk back but got lost in a storm, and a rescue party had to go out from Pitkin to find them. Charley Graves was fired for this, but got his job back shortly. None of the kids were the worse for their experience."

Mr. Pearson recounted how, at one time, there were seven hundred people living in Quartz where freight was transferred from the trains to wagons to be freighted over Cumberland Pass to Tin Cup. Quartz never bothered to build a jail. They simply used two old South Park box cars.

"The railroad originally owned the land for one hundred feet on each side of the track," continued Pearson, "but their rights all expired in 1933.

"I own all of the property at the west portal of the tunnel, including the rails still inside the bore, but not the land. The taxes are paid up on it. Someday I may try to salvage the iron still in the tunnel. I had planned to wreck the old boarding house for the lumber, but now it is crushed by the snows.

Except for the iron, there just isn't anything of much value up there.

"Dwight E. Young of Denver, who has since passed away, owned the other side down to Hancock. For years he had worked on plans to rebuild the railroad as a scenic attraction. He had a million-dollar venture laid out to be financed by U.S. and Swiss capital, which included not only the railroad but a fine hotel, a cattle business, and a dairy industry," Pearson said.

"When I think back to those wonderful days, the names of good old friends come rushing to my mind. There was R. R. Williams, head surveyor and civil engineer. I worked with him and I now own his old transit. There was Dad Martenis, a distinguished looking man with a beard that came down to his belt, Mike Byrnes, Oscar Cammann, and conductor Mike Flavin, all of whom were killed in an accident in the tunnel. Then there was Mr. Stapleton, engineer, and Sam Churchill, the conductor on that excursion train down in the photograph at the Palisades. Also there were Walt Parlin, a great 'snow buckler,' and his brother, Bob Parlin, who had a stolen whistle mounted on his engine, different from and louder than any other whistle on the line. Bob always bragged that his whistle could be heard all the way from Pitkin up to the tunnel; Curley Collihan, who had a big, booming voice, was always pleasant and jovial; Polly Plewes fired for Johnny Olson; Sam Hoffman loudly proclaimed that when he received a cash fare he would toss it up to the bell cord, and only the money which stuck to the cord went to the company; Andy Nelson finally was promoted to head engineer for the railroad; Marv Lintz, Fred Winters, Dave Sanchez, the Perschbacher boys, Roy Morton—I guess if we had time I could name every old-timer on the line.

"You bet I miss the old 'Damn Slow Pulling and Pretty Rough Riding.'"

## James G. Edgeworth

"We had just topped the crest, inside the tunnel when we broke in two . . . that was the worst fright in all my railroading!"

"So far as I know, only one train ever stalled inside the Alpine Tunnel, and I was a brakeman on that train. You bet it frightened us, not knowing what had happened and to be sitting there in the blackness of that hole!"

This chilling experience happened to James G. Edgeworth, who now lives in Denver at 3118 West 26th Avenue.

"Back in 1906 and 1907 I was a regular brakeman on Trains No. 93 and No. 94, between Como and Gunnison. They were both mixed, passengers and freight, each run taking about 12 hours to make the 114 miles through Chalk Creek, Alpine Tunnel, the Loop, and Quartz Creek. On this particular day we encountered a terrible blizzard between St. Elmo and the tunnel. We had five engines and set out all of our train, excepting the merchandise car, at Hancock, leaving there with five engines, the merchandise car, one coach, and conductor Jack Hamilton's caboose and his two brakemen.

"At Alpine Tunnel we cut all the engines off excepting our train engine and sent them down the hill to Pitkin. We left Jack Hamilton and his crew at Pitkin and pulled our train on into Gunnison. The following morning we pulled out of Gunnison with two engines at the head end plus the engine and its crew from the Baldwin coal run, pushing. At Pitkin we reduced to seven loads of coal as the storm was still in progress on that side of the hill as well as the other side. We picked up another engine at Pitkin, piloted by engineer Hebert, who had just come down the hill, to be one of our helpers.

"Leaving Pitkin, Walt Parlin was in the lead and then Joe Nichols, as train engineer. Pushing on the rear were Hebert and the Baldwin crew. At the stop at Alpine we dug four cars of coal out of the siding, and it took two engines to move two cars at a time. The brakeman always had to get under the cars at Alpine tunnel to adjust the brakes — that is, take up the slack — as we needed every ounce of braking power to hold the trains going down the hill. The

snow was so deep we had to shovel an entrance at each end of the cars, as the narrow gauge cars of those days had to be adjusted at each end of each car. This was the most miserable job I ever had as a brakeman.

"I had worked on Raton Pass, Cajon Pass, Williams Mountain, and the mountains between Prescott and Phoenix and considered myself a good mountain man. At all these places the brakemen had to ride out and set hand brakes going down grade, but at none of these places did the brakemen have to adjust brakes.

"When we finished with that task we pulled out and, of course, we two brakemen were out on top, so we would be there when we came through the tunnel. We had just topped the crest inside the tunnel when we broke in two, and that stopped the train. That was the worst fright in all my railroading. I did not know where the break was or which part of the train I was on. I started to crawl along the top on my hands and knees. At the end of each car I would reach my hand out for the car ahead. By this I worked my way to the head car, when suddenly we started moving again. The head brakeman had gotten off and had tried to make his way out of the tunnel, as the smoke from the engines was terrible.

"As I said, I was riding the head car when we popped out of the tunnel and I can still see Joe Nichols looking back at me to see what I was going to do. I started setting hand brakes and Joe put his engine into reverse to render all the help he could. The head man was able to get on the engine. His name was Ed McCune, and a brave man he was, for he did not have to get on that train which he knew was running away. McCune and the fireman came back and started doubling up on the brakes I had set. I still remember hollering at them not to break any chain, for that car would be useless to us for hand brakes. We finally got the train stopped and



## Historic Alpine Tunnel

turned the angle cock on the rear so the engine could pump up the air again.

"We had uncoupled just ahead of the two helper engines that were pushing. At Hancock we again adjusted the brakes. The conductor, Jack Wilson, said the dispatcher had told him to set out the train and go back to Alpine Tunnel and get five more loads. This we refused to do. The dispatcher then told Wilson to set out the train, and if we could pay our fare, bring us, the two brakemen in, otherwise leave us there in that terrible blizzard. We told the conductor to get on that train. We were going to take it to Comol

"At St. Elmo we got the train stopped, the opposing train was on the Mill track, and went into the office. There, the conductor, Jack Wilson, told the operator to wire the dispatcher that he still had his train and the two brakemen. It was getting dark and one of the worst stretches of that hill was just ahead, for only a few months earlier the engine crew, conductor, and one brakeman had lost their lives on a train that was running away and left the track. I told my partner, let's knock the brakes off, so everyone got on the train and away we went.

"For this we were fired, but we had already decided we would quit when we got in."

Jim Edgeworth was a typical boomer in his early years of railroading. He served in the Spanish-American War, being mustered out in 1901, whereupon he went into railway mail service. This led into railroading and he came to the "Park" in 1906 as a brakeman. He said he received \$3.25 per one hundred miles.

"Those engineers on the Park were the gamest fellows I ever saw," continued Edgeworth. "Equipment, rails, roadbed and safety devices were just not equal to the difficulties of railroading through those mountains. Every trip meant danger, especially for the engineers and firemen. On long, steep downgrades, we would have to stop the train from time to time, for five to ten minutes, to allow the brakes to cool.

"Jack Wilson was my conductor. I rode many times with Walt Parlin and Curly Colligan. You could never make a run through the tunnel without a feeling of excitement, no matter how many times you had done it before. It was a great thing to hear each of the four engines 'whistle off' on the conductor's 'high ball'! I would sure like to go up there once more and see the old tunnel, the rock wall, and the loop."

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# THE UNION PACIFIC RAILWAY

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PARK AND THE GRAND PLATTE CANON.**

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GUNNISON, COLO.**

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When rail traffic was established through the great Alpine Tunnel in 1882, this announcement was published by the Union Pacific Railway. *Courtesy Colin L. Moore.*

# The Spotter

"... he asked the conductor to take cash for his fare!"

The "Spotter Story" is still slyly and gleefully told by old-timers of the South Park. All railroads employed spotters to travel their systems and observe, unnoticed, the conditions and care of equipment, observance of work rules, general efficiency, and loyalty of employees. Spotters were not particularly popular with the railroaders, who viewed them as spies. On a fall day at Como a situation arose whereby two South Park conductors connived to embarrass a spotter.

The spotters, of course, had passes, but often they would pay their fare on board the train, in cash, to test the conductor's honesty. This particular passenger had ridden over from Denver on his pass, and something in his actions caused the Denver conductor to conclude he was a spotter. He tipped off the conductor on the Gunnison division to be alert, giving him at the same time the number and name on the man's pass.

Sure enough, as the Gunnison-bound train pulled out of Como, the man came on the run, just barely getting aboard. Saying that he had not had time to purchase his ticket he asked the conductor to

take cash for his fare. The conductor was delighted, took the cash, pocketed it, and then carefully entered the spotter's pass number on his report.

In about ten days the Gunnison conductor was summoned into Denver and confronted with the spotter and a charge that he had failed to turn in company funds. The conductor carefully scrutinized the spotter and gravely admitted that he had ridden with him from Como to Gunnison, and after more deep study, he opined that the spotter had used a pass. The spotter scoffed loudly at this, but the conductor humbly asked that his report be examined and the numbers of any passes thereon be compared with the spotter's pass. The numbers matched and the case against the conductor evaporated before the amazed eyes of the spotter. Words, charges, and accusations would not stand up against the written record. Apologies were tendered the conductor and he was ordered back to work.

After an elapse of several days, the Gunnison conductor entered a phantom passenger from Como to Gunnison, paying for this passage with good, hard, cold cash.

Como, Fairplay, Alma						Buena Vista, Romley					
READ DOWN			Narrow Gauge			READ UP			READ DOWN		
90			TABLE No. 5			91			92		
Daily	Ex.	Sun.	Mls.	Elev.	Daily	Ex.	Sun.	Elev.	Mon.	Wed.	Sat.
PM					PM				AM		PM
2.05	0.0	Lv...Como..Ar	9787	12.45	8.00	0.0	Lv Buena Vista Ar	7947	4.00		
2.25	5.4	"..Red Hill..Lv	9532	11.45	8.15	2.0	"..Macune..Lv	7855	3.00		
2.45	9.6	"..Hay Ranch.."	9289	11.20	8.25	3.0	"..Schwanders.."	7816	2.00		
3.05	14.3	"..Arthurs.."	9170	10.55	8.45	7.5	"..Nathrop.."	7687	1.00		
3.20	18.4	"..Garos.."	9181	10.40	9.10	12.8	"..Mt. Princeton.."	8189	1.00		
3.40	21.8	"..Platte Ranch.."	8945	9.55	9.40	17.5	"..Glenduff.."	8724	1.00		
4.00	25.0	"..Hilltop Jet.."	9794	9.55	9.55	19.5	"..Fisher.."	9530	1.00		
4.10	28.4	"..Fairplay.."	9874	9.30	10.40	24.0	"..St. Elmo.."	10067	1.00		
4.30	31.8	Ar...Alma..Lv	10238	9.30	11.30	28.3	Ar..Romley..Lv	10940	1.00		
PM					AM				PM		

Colorado and Southern Railway Company timetable of September 1, 1921, shows trains operating on the Gunnison Division reduced to three times weekly, with service terminating at Romley.



## Oscar Perschbacher

"There were lots of boomers those days . . .  
'Flatlanders' we called them. One trip  
from west portal, down past the Palisades  
usually cured them of mountain railroading!"

Mt. Massive and Mt. Elbert were completely white with snow that bright, brisk Sunday morning when we rapped on the front door of the trim, well-painted home at 408 East Ninth Street in Leadville. Soon Mr. Oscar Perschbacher was regaling us with memories of the old South Park. Oscar had started with the South Park June 13, 1906. Within a year and a half he was promoted to foreman of the bridge and building crew.

"I worked as a carpenter when the big boarding house was built at Alpine. Is it still standing? [We had to tell him it had finally collapsed, crushed by the snows of fifty-five winters.] Our work must have been O.K., if it took that long to fall down. The gang worked about two months to build it. We were there in July and August of 1906.

"During late January of 1907, officials closed the tunnel for the rest of that winter and sent us back up there to retimber it. They had shipped in a huge amount of fine Oregon pine for the job. You know, there wasn't much clearance between the cars and the upright timbers, and many of our cars had become bulged out on their sides, causing them to scrape those uprights. When this happened, the maintenance men would chop into the timbers cutting as much as six inches away. In some sections of the tunnel we replaced a lot of those old 12 x 12 redwood timbers.

"It was pretty lonely work. We were there about three months and we lived right at the west portal in outfit cars.

"We had plenty of supplies, good food, lots of coal and everything to be comfortable, but we did run out of coal oil, which we needed for the torches in the tunnel. The trains ran to Hancock until it became snowed in, then they turned at St. Elmo. We had to have the coal oil, and there was only one thing to do — walk down to St. Elmo and get it.

"Two men would make the trip, every other day,

and it took a whole day. We would carry five gallons each up to the tunnel. The snow got awfully deep, but we didn't need snowshoes as we found we could walk right on top of the snow. The danger of snowslides did worry us, but no one got hurt all that winter.

"I did a lot of work up at that old tunnel. It was so damp inside the tracks would shift. In the winter, when the tracks were frozen up and the side walls were iced, the section men would chop the ice away from the tracks so they could keep the water running. They would also remove the 'shores' that held the rails in position. Come spring, we would go up and replace the 'shores' going through the tunnel and wedge short pieces between the ends of the ties and the redwood upright timbers to hold the rails firm and in center position. Icing in the winter would dam up the water, which would freeze. We got 25c an hour for a ten-hour day.

"None of the train crews on the Alpine Division liked those snowsheds, especially the long one at west portal. So when they thought the danger of heavy snowfalls was over for the winter, the firemen would take large lumps of coal and knock some of the boards off. The company didn't approve of this, but neither did they ever make an issue of it. In the fall we were sent up to replace the boards.

"I sure remember Christmas Eve, 1908! We had been called out of Gunnison with four engines to help two sections over Alpine. The first had thirteen cars, the second crew had twelve cars. They billed sixteen at Hancock.

"It was about 20° below zero that night and there was a good three feet of snow, but we got them over to Hancock without any trouble. We turned our engines on the wye, coupled up, and started back through the tunnel. Upgrade, just

## Personal Stories

above Sawmill Curve, we could see the train below as it proceeded downgrade toward St. Elmo and suddenly we noticed that it had stopped a mile or so down the track. When we heard four sharp blasts on their whistle, which told us they were in trouble, we backed down past Hancock to their train. Their engine, No. 73, with Sharkey Gross running it and Charley Shultz fireman, had derailed due to heaved plates.

"Their crew got out the frogs to re-rail the engine, while we split their train and took the rear eight cars to the siding at Hancock, returning quickly for the other eight cars. Just before we got those last eight cars into Hancock a 'heaved' place in the line broke our drag in two and let the rear seven cars run 'wild' down the track toward the stalled engine.

"There were two of us on the tops of these cars and, believe me, we clubbed those hand brakes with all we had! Down below the men were now under their engine, which was still partially on the tracks with pony truck and drivers derailed. There was no way to warn the men and if we hit that engine everyone down under would be killed.

"As we neared the stalled No. 73, I shouted as loud as I could and they heard me. Every man scrambled for his life and got clear of that engine. We had been able, up top, to hold the wild cars in

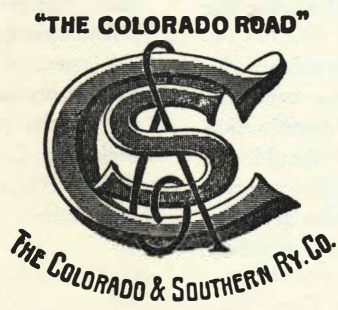
check pretty well and when they finally came to the engine, they hit it just as gentle as if an engineer was coupling up the train.

"After the frogs were set we pulled old 73 back on the rails, put their train back together, and returned to Gunnison.

"Yes, I was snowed in once at Alpine with a freight. The next morning we managed to work our way through the tunnel, but at east portal we found the snow even worse. 'Cigarettes' Hebert, our engineer, said he could break through to Hancock by using a car of coal to buck the snow. We switched a loaded coal car in front of his engine and away he went — for about half a mile. There the coal car left the tracks, broke off and bounced down the mountainside. Hebert backed up to east portal and clamored for another car of coal. He didn't get it.

"There were lots of 'boomers' those days, 'flatlanders' we called them. Usually it took only one trip from west portal, down past the Palisades to Woodstock Loop, to cure them of mountain railroad-ing."

Oscar Perschbacher worked for the Colorado & Southern for forty-three and a half years and had the unique honor to be conductor on the last narrow-gauge operation of the C&S when he took the final narrow-gauge train from Climax to Leadville, an event that received nation-wide attention, being photographed and reported by *Life* magazine.



This emblem, long used by the Colorado and Southern Railway Company, is regarded by countless rail fans as the most beautiful railroad insignia ever created.



## Fred Winters

"The most hated sound of all was when the engineer would whistle for brakes in the tunnel!"

"The pitch-over at Alpine Tunnel was much closer to the west portal than to the east end, and to a brakeman the most hated sound of all was when the engineer whistled for brakes in the tunnel. The tunnel was so small that we could not get on top of the cars, so we had to act quick, when the cars came out." Fred Winters, who now lives at Gunnison, came over to the South Park from the Rio Grande and worked as a brakeman through the tunnel. "Only when the engineer had lost control of his train would he whistle for brakes, but this happened often. It wasn't too bad west bound, for the distance downgrade in the tunnel was shorter and the curve at west portal was not so sharp. A train could get to going pretty fast from the pitch-over to the east portal where the turn was very sharp."

Mr. Winters continued, "We had to work fast and hard on the downgrade toward Hancock. Usually there were two brakemen. One would work back from the engine and the other forward from the rear car. If we did not have the train under control when we met, we would usually pass and double the other brakeman's work."

"I worked a lot of runs with Dave Sanches, who was awfully good at protecting the rear car. On mixed trains, the rear car would be a combination baggage car and passenger coach, and should the train get out of control, it was up to the conductor to pull the pin so the passenger car was detached from the train. He would then let that car slowly

down the hill, controlling it by hand brakes. We would re-assemble the train at Hancock."

Mr. Winters went on to relate how all the trainmen dreaded the smoke and fumes in the tunnel, and should an engine spin its drivers, the smoke would be vastly increased. With a six or seven car drag, it would require three engines, two up front and one pusher. At the exit of the tunnel, while the train was still in motion, the fireman of the second head engine would crawl around his engine and pull the pin on the head engine, so it could run light, ahead of the train, to the next siding. The air for the train was always carried by the second engine, so there was no air hose to disconnect.

"At the time I was working through the tunnel, there was no light at the pitch-over. Every engineer and trainman on the line then had to know exactly where the point was because it was important for the engineer to stop working steam and start using air. Otherwise he would get out of control. I have had some fast and furious rides down from the east portal to Hancock."

By "pitch-over" Mr. Winters, of course, meant the apex of the tunnel. "We must have hauled mountains and mountains of coal, those days, for use by the railroad and for every town on the line, including Leadville. That coal for Leadville actually had to cross the Continental Divide three times," he said.

## Mark Twain

When Samuel Langhorne Clemens (Mark Twain) was summering in Colorado, he heard how E. B. Wilbur, roadmaster for the Denver South Park Railroad, rode a flat car down the grade from Alpine Tunnel to get a better view of the scenery. Clemens decided to duplicate this.

He induced Wilbur to arrange the trip. The ride was without an engine and Wilbur used a pick handle to tighten the brakes. The car got out of control and made such a wild ride of the affair that the shaken Mark Twain insisted that Wilbur must have tied a rope around an Irishman and thrown him off as a brake.

*Pueblo Chieftain* — October 2, 1961

## Joseph Perschbacher

"We heard an ominous rumble. There  
Came a Huge Rock, Rolling Right  
Toward Us!"

"I made one of the last trips through the tunnel, back in 1910, and I remember many things that happened on the C.&S. in those days," said Joseph Perschbacher, leaning back in his chair and lighting up his pipe.

"I was a brakeman on the Alpine run for four years. We had it hard, but if I had the chance, I would do it all over again. It took real men to run those little trains! Coming down from the tunnel, we didn't ride the caboose. No, sir, we had to ride the tops of the freight cars and 'brake' every foot of the way, winter or summer. We saw some winters that were terrors!"

"Many a night Joe came home with his clothes frozen to him," said Mrs. Perschbacher. "I can remember times when we had to cut his clothes from him to get them off!"

"Even with air, we had to use the hand brakes every time we came down, and we had to club 'em, too. Even so, we didn't always have control of the trains. In good or bad weather we couldn't keep our schedules very well."

The Perschbachers have lived at Buena Vista for many years. Of their three sons, only one followed his father's work and is now employed by the "Grande".

"I don't recall of a train ever stalling inside the

tunnel," continued Mr. Perschbacher, "probably because every train was carefully and thoroughly inspected before it started through. When we were westbound, we'd stop at Atlantic, at the east portal, and when we were eastbound we'd hold up at the dispatcher's shack.

"We had a rather odd accident happen to us one spring day. We were eastbound for Como and had pulled up at Tunnel Gulch tank near old Woodstock to take on water. I was talking with the engineer while the fireman supervised the water, when we heard an ominous rumble coming from up the hillside above us. A huge rock, about six or eight feet through, came rolling right toward us. We shouted to our fireman, and all of us ran as hard as we could. The rock hit square between the tank and the engine and broke us right in two. If that rock had hit a passenger car, it would have sent it off the tracks and down the gulch.

"We lost an engine one afternoon, at the Romley Turntable. This table had been constructed too close to the main line, and to use it the engines had to be almost perfectly balanced. On this occasion we were very low on water, which made the head-end heavy. The engine got away from us and went



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straight down the mountainside. Sam Speas was the engineer, but he and his fireman managed to jump clear.

"Those turntables had no power, you know. We'd swing those engines around by hand. Two men could do the job.

"I was lucky, I guess, that I never got stuck and had to stay any length of time at Alpine. I have eaten some fine meals at the boardinghouse. The cooking was real good. Guess that's why they didn't have much trouble getting maintenance crews to stay

at the Tunnel. You know, my brother Oscar built that boardinghouse."

Mrs. Perschbacher shook her head and interposed. "One time the boys and I were stuck in Pitkin for a whole week, waiting for them to remove the snow over Alpine."

"Those were good days," added Mr. Perschbacher. "We got \$3.16 for a 10-hour day, with overtime pay. I worked on the South Park for 40 years, from 1906 to 1946, when I retired. I was 80 my last birthday."

The trim, well-kept home of the Perschbachers is actually the old section house from Schwanders, moved to Buena Vista in four sections, in 1903.

## W. C. Rupley

"One could see the issue of steam and then wonder if the sound would EVER reach him!"

Copy of a letter from W. C. Rupley written May 22, 1946, to Muriel Sibell Wolle, author of *Stampede to Timberline*.

Dear Friend:

We lived in Denver 1900 to 1909, during which I was chief dispatcher for the Colorado & Southern Railroad, office in the Old Union Depot. Part of the time my territory extended to Greeley and Ft. Collins and all the time included all of the South Park Division of the Colorado & Southern, a line from Denver to Leadville crossing the Continental Divide at Boreas, a branch-off of it a few miles from Denver at Sheridan Junction, running to Morrison.

At Como, about 90 miles from Denver, the Gunnison line branches off and that line holds most of the glamour for me and mine. Twenty-five or thirty miles was Schwanders, where a two- or three-mile branch took off for Buena Vista. Schwanders was at the mouth of a canon and high water often ripped the track out of that canon. Then came several little stations and on the right, as you go up, was Chalk Mountain, a formidable peak, apparently composed of chalk, for through the centuries it had washed off from the rains and its chalky sediment had spread out fan-like over a wide area.

That little narrow-gauge was built right over that

flow of chalk, and the telegraph poles, probably never more than eighteen feet above the ground, possibly 22 feet, were set in that bed of solidified chalk dust. Years went by and more and more chalk swept down, making it necessary for the section men to form a cut with side walls of chalk swept down, which walls grew until they [were] considerable height, maybe twice the height of a man, or as high as a box car. Meanwhile the chalk also rose up higher and higher on the poles until in 1907 or 1908, I forget the dates, the poles were only 4, 5, or 6 feet high above ground. A man might have jumped over them in places.

A place not far below [toward Denver] from St. Elmo was a station called the Cascades, and the stream sure made a beautiful cascade over the rocks.

In the summer of 1902, when our boy was six months old, I took my wife and son up there. They stayed at St. Elmo two or three days with the Stark family. Mr. Stark was section foreman for the railroad, quite a rough type, but Mrs. Stark, a little light-weight woman made up for it in hospitality and sincerity. They ran the store.

On west of Romley comes Hancock, where there was a water tank for the R. R. engines and next was

## Personal Stories

the tunnel, 1800 feet long, down hill both ways from the middle of the tunnel, that being the Continental Divide. Between the tunnel and Hancock was the worst snow blockades I have ever heard of. I have photos of box cars in the deep snow cuts, a man standing on top of a box car reaching up as high as he could with a shovel extended above him and unable to reach the top. It wasn't railroading in the winter; it was just fighting snow.

Couple four engines together at the tunnel mouth, two on one headed downgrade and two on the other end, headed the opposite way, so that when they got through (if they did) they could again back up through the snow that rolled back in. Once in a while these engines were crowded off by the snow on the high side, and they rolled down the mountain. It was not unusual for these engines, starting from the tunnel at high speed, to tunnel through entirely under the snow for a long distance, like a mole, and if they stopped, the fireman had to get busy quickly to open a vent over the smoke stack, so the fumes would not back into the cab and suffocate them. All windows were boarded up. Slides, on two occasions, came down from the hill and carried cars right out of the middle of the train, down the hill. The telegraph wires on the high side were buried much of the way with snow and why the wire carried the messages, I do not know. It seemed it should have grounded the wires, but it did not, some thought because the snow was dry.

On the west side of the tunnel was Alpine Tunnel Station and an eighth of a mile on west was "THE POINT", since the railroad turned sharply

to the left there. From that point one got a magnificent view of the broad valley in the immediate foreground, as well as the snow-capped peaks to the west in Utah. Sitting on the bank at the point and watching a four-engine train plodding up the 4% grade straight across that enormous valley was a sight. It seemed scarcely to move, but the steam was pouring out of all the stack exhausts in evidence of the struggle. Once in a while the lead engine would whistle. One could see the issue of steam and then wonder if that sound would EVER reach him; finally a faint squeak would waft in to confirm what had been seen.

I am not informed as to when the tunnel was abandoned, but I thought they continued to operate trains through it for at least a few years after 1909, when I left. The tunnel frequently caved in, in a small way from 1900 to 1909, but never any great quantity, probably a few tons at the most, unless for one or two exceptions, a little more.

By the way, Mrs. Stark told us that years before 1900, the railroad, on one occasion, had 110 men there, digging snow between Hancock and the tunnel to keep the line open for trains. She alone fed them all for twelve days straight, during which time she hardly closed her eyes. She had to stay up all night baking bread and doing such work. The men filed in, in groups, eating off the dishes their predecessors had eaten off of, without them being washed. She had two or three little children besides.

I retired from railroad work seven years ago,

Sincerely,

W. C. RUPLEY

Mr. Rupley passed away at his home in Spokane, Washington, in 1959.

## H. N. Miller

"We were paid 'Valley Miles and Mountain Miles' those days."

"Back in 1907 they were short of help on the Gunnison division and I was sent up, extra, to fire for Tom Hayes. It was right in the middle of winter, in February. I didn't know it could get so cold!" Mr. H. N. Miller had 51½ years of railroading back of him when he retired. He now lives at 2026 Bryant Street, in Denver.

"We were paid 'Valley miles' and 'Mountain miles' those days. From Gunnison to Pitkin we got 2½ c per mile, but over the hill, from Pitkin to Schwannders, those being mountain miles, we were paid 5c per mile. We had to fire hard to get those trains up



## Historic Alpine Tunnel

to the tunnel. Then, before going in, we would see to it that we had a full head of steam. After we passed the pitch-over we would bank our fires for the long downgrade run and sit back in the cab. The engines made a lot of gas in the tunnel, so we would usually reach out and grab a big handful of snow to hold over our mouth and nose, to breathe through.

"The tender would hold about six tons of coal and it took ten tons to run from Gunnison to Como.

## Zed Scott

### "I Remember Distinctly, the Last Train through Alpine Tunnel."

"I was just three years old when our family moved to Pitkin in 1894, and from that moment on my whole life was wrapped around the old South Park railroad. As a youngster, I often rode on the engine with Walt Parlin, who was the best 'snowbucker' on the line." Zed Scott leaned back in his chair and his eyes glowed as he recalled his early days of railroad-ing. "For many years they kept Walt Parlin stationed at Pitkin and his job was to keep the tracks clear of snow through the Alpine Tunnel. He was on call day and night. He would plow the line out to Hancock and then 'double the track' back, often making two trips a day."

Zed Scott's father, Wayne Scott, was among the rescuers from Pitkin at the Woodstock slide.

"We were an ornery bunch of kids," continued Scott. "Night after night we would steal one of the helper engines which were kept in the yards at Pitkin and make a 'run' to Ohio City and back, while the trainmen were up town having a few drinks. I suppose they knew about it, but we would run 'dark' without any headlights."

"I remember distinctly the last train through Alpine Tunnel. The date was November 10, 1910, and the fireman was Fritz Heftner. I can't recall who the engineer was, but it was a mixed train, eastbound for Como," Scott continued. "During those years we had lots of trouble caused by broken rails. The rails just weren't heavy enough. One winter night an

That Baldwin coal was good coal, but it threw lots of sparks. At that time we did not have 'arrestors'. They developed those later. We kept 70 pounds of air in the train line and 90 pounds in the main reservoir. When we were pulling upgrade we would use automatic air, and then cut into straight air for the downhill run.

"I guess the two things I remember best about Alpine Tunnel were the foul gases in the tunnel and the fact that we had to eat so fast at the boarding-house."

eastbound train was wrecked about one-half mile upgrade from St. Elmo. Oscar Perschbacher was the rear brakeman, Clarence Palmer, the conductor, Walt Parlin, the engineer and Bill Lehan, the fireman. A doctor who lived in St. Elmo was riding the combination car and had his hand badly mangled. He didn't wait for help or sympathy. He just took off in the darkness." Zed Scott was only lightly bruised.

"Our business those days consisted mostly of Baldwin coal, livestock, and ore from mines at Ohio City, Pitkin, Quartz, Woodstock, Hancock, Romley and St. Elmo. A drag usually consisted of about 12 cars, with 4 engines, Pitkin to Hancock. We had nearly all the livestock business out of Gunnison because, over the South Park, it took only one day into Denver, while via the Rio Grande and Marshall Pass, they had to lay over a day at Salida to feed and water the cattle.

"I fired for Curly Colligan on old C.&S. No. 59 in 1909-10. Curly had a great habit of talking to his engine, saying, 'Come on now, you can make it!' Colligan and Walt Parlin were my best friends. Later, I fired No. 71 for Fred Williams. This is the engine that is now on display up at Central City.

"There were lots of slide areas all the way over, from Pitkin clear to St. Elmo and below, but we knew where they all were and would watch for them.

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They were all 'old slides' which had run for years and usually had the rocks and trees cleaned out. Fred Williams hit one of these smaller slides one night and his engine, instead of plowing into it, rode up and over it. The engine turned on its side and slid some 700 feet down from the track. Williams and his fireman rode it down and neither was hurt.

"Before passing through Alpine Tunnel we would be certain we had plenty of water and steam, so we could keep the smoke down. Even at that, four engines made it very gassy. That tunnel was so small,

in places, our engines would actually scrape the sides. Those old oil headlights didn't give much light. We were always glad when we rolled out.

"A real tragedy occurred back in 1906, when a train got out of control downgrade from St. Elmo. Chauncy Burnside was braking, and his four children were riding the rear combination car. Because of them, Burnside rode out the wreck and was killed. He could easily have jumped, had he known that the conductor had cut off the rear car."

Zed Scott spent his latter years railroading on the Denver & Rio Grande and, now retired, lives on the Rainbow Highway, at Salida.

## Mrs. Fred B. Everett

**"It was Always High Adventure to Walk  
through the tunnel . . . at no time could  
a person see both entrances."**

"All the men who worked for the C.&S. (South Park) were nice, but I believe the most popular man was Curly Colligan. His real name was Patrick, and he was always jolly and jovial, with a pleasant word for everybody."

These words were told the author by Mrs. Fred B. Everett, who now lives in Salida. Mrs. Everett went to Alpine Tunnel in 1907, as a young girl, to work in the boardinghouse.

"There were eighteen men stationed at the tunnel at that time, divided into two crews. Half worked east through the tunnel and down to Hancock, while the others worked west, down past the Palisades and beyond the Sherrod Loop.

"It took five days of snow-bucking from Hancock, before our train made it to the boardinghouse, so I could go to work. Mr. and Mrs. Musto had charge of the boardinghouse, and their daughter Pearl was my girl friend. It was through her that I got the job. Shortly afterwards the Musto family left. Larry and Kitty Waters took over. Mrs. Waters was a superb cook, and the wonderful meals at Alpine became famous over the whole South Park system. We served breakfast and supper, family style, for the men, preparing a generous lunch box for their noon meal. Appetites were hearty, for those men worked hard.

"To protect their skins from the bright sunlight reflected from the snow, the men would blacken their faces with charcoal. The old stone engine house was in ruins at that time and no engines were kept at Alpine. Helper engines, up from Pitkin or St. Elmo, would turn on the turntable. The section crews used those little handcars to cover their divisions and you can imagine the exertion it took to hand-pump those things up the grade from Hancock or the Loop.

"The very first week I was there a freight train stalled in the snow and was stuck for three days. Other than that, not much trouble happened while I was there.

"The boardinghouse was a big building. Downstairs were a kitchen, storeroom, and two bedrooms. The rest was a huge dining room and club room, all in one. It was heated by a great pot-bellied stove which could hold about a half ton of coal. We were always real comfortable. There were lots of rocking chairs and in one corner was an organ, around which many delightful evenings were spent. How well I recall the favorite song, 'Wait 'til the Sun Shines, Nellie.'

"The upstairs was one huge room with bunks for



## Historic Alpine Tunnel

the men, excepting a small private room, which was used by railroad officials when they stayed over at Alpine. Mr. Burns, the roadmaster, came quite often, and he would stay for several days. It was up to the men to care for their quarters. We were not required or permitted to go upstairs.

"In addition to feeding the section men, we also fed the telegraph operator, who was Billy Hines at that time. Billy lived in the little room in the back part of the station. After I had been there for a while and gotten acquainted, Billy proposed marriage, but nothing came of it. Billy later married the girl who took my place.

"As I recall, the eastbound and westbound trains met at Alpine about noontime and during the 45-minute stop we fed the passengers.

"The tunnel was carefully inspected every day. While it was thrilling to be a 'railroader,' it was a lonesome life for a young girl. Often, during the long afternoons, I would walk along the road, sometimes down to the Loop, and other times through the tunnel. Friendly engineers would often take me on the engines.

"It was always high adventure to walk through the tunnel. My, but it was black in there. As you know, the tunnel had a great curve in it. At no time could a person see daylight at both entrances. I always carried a lantern. Going through, from the West Portal, I would look back and marvel at how the circle of daylight grew smaller and smaller.

"There, hundreds of feet under the top of the mountain, was the exact point of the Continental

Divide. I would often pause, contemplating how the waters divided, part to flow to the Atlantic Ocean and part to the Pacific. Tossing in tiny bits of paper or slivers, I could watch them go their opposite ways bidding them good luck and sending with them the fancies and dreams of a young girl, realizing that, in time, they might be a continent apart, perhaps even on opposite sides of the earth.

"Sometimes I got an 'eerie' feeling in the inky blackness and stony silence of the tunnel, having heard so many stories about the number of men killed, in building it, and I could never forget the stories told about the accident that killed Dad Martin and his crew.

"Life was pleasant at Alpine. We worked very hard, as did all the South Park people. Those were happy, carefree days and a thrilling experience for a young girl, for railroading was an honored and romantic calling."

Mrs. Everett is one of the most delightful of all the old-timers we had interviewed. She has lived all her life in the "high country" and now resides at 16th and L Streets in Salida.

NOTE: Mary Taylor "packed in" to Alpine shortly before the old boarding house collapsed and wrote as follows in the *Pueblo Chieftain*: "The door to the old hotel resisted my first effort to open it. I pushed hard. Groaning on its heavy hinges, it opened enough for me to squeeze through. I found myself in a rustic lobby with board tables, rustic chairs and a rough bar. There were unfurnished rooms opening out of the lobby. I could not determine what they had been. I climbed the creaking stairs to the sleeping quarters. They consisted of two large rooms with plenty of board bunks. Pack rats scurried everywhere."

## George W. Champion

### The Last Rotary Snowplow Trip through Alpine Tunnel.

The following story, in George W. Champion's own words, was recorded on tape for the use of historians and South Park fans and a copy was kindly sent to the author, for inclusion in this manuscript. George W. Champion lives at 2636 W. 35th Avenue, in Denver.

It was in December of 1909, a pretty tough win-

ter for railroading, lots of snow and wind on both Boreas and Alpine passes, as well as other sections of the road and they were repeatedly being blocked with snow making operations of trains a difficult problem.

The snowplow was in use a lot that winter, first

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on one division and then another. On the morning of December 31, I was called for one of the snowplow crew and if I remember right we were to leave Como about 11:00 or 11:30 A.M. on the Gunnison Division to open up the road between Como and Pitkin.

I was assigned to the pilot house of the plow. Ed Annis was the engineer and John Hallock was fireman. My duties as pilot were to keep constant watch of the track ahead, to reverse the snow hood when occasion required and to make myself generally useful, oiling, etc. I could signal the engineer by means of a bellcord. If, while working, anything went wrong, I also had a whistle cord and emergency air valve handy for use if needed.

We left Como about on time with three engines and a combination coach for the train crew. The engineers on the engines were John Olsen, Billy Cairns and Mike O'Hara. I don't remember who the firemen were nor do I remember who the conductor and brakemen were.

We didn't have much snowplow work to do from Como to Schwanders though some of the cuts out of Como and up Bath Hill had to be cleaned out as they were more or less drifted full of snow.

We took water at Schwanders and pulled out for Chalk Creek Canyon and Alpine Tunnel. Seems like it was about two or three o'clock in the afternoon. You don't run very fast with three engines and a snowplow and it seems as though our top speed was about 15 MPH except when we were bucking snow and then it was slow going.

After we got up Chalk Creek Canyon we ran into lots of snow especially around Fisher, St. Elmo, Romney, Hancock and Atlantic. I remember between Fisher and St. Elmo we were bucking pretty heavy drifts and throwing the snow out to the right along the steep slope of the mountain. Occasionally the snow thrown from the plow would start a miniature snow slide down the steep side of the mountain.

There was not very much timber along there, some places not any, and you could watch these small snow slides go almost to the bottom of the canyon. This was a very impressive sight for me and a new experience also for it was my first trip on the snowplow.

The old rotary plow didn't steam too well and we made several stops to get up steam and get the boiler full of water and in proper working condition. I remember Johnny Hallock had quite a lot of trouble

keeping the boiler hot and full of water for we were working the plow pretty hard and constantly all the way up to Alpine Tunnel.

When the rotary was working hard in heavy snow it was sure a wicked piece of machinery. Vibration from engine and wheel was terrific and you could hardly stand without support.

Well, it was pretty dark when we arrived at the East Portal of Alpine Tunnel. It must have been about 9:30 P.M. We stopped at the portal and on account of the width of the side wings on the plow hood it was doubtful as to whether the plow would have clearance enough to go through the tunnel.

It was getting late and every one was getting tired and hungry so the engineer and conductor after talking things over decided to lead the plow through the tunnel rather than take off the side extensions on the plow hood; so we tied a long piece of bellcord to the whistle cord of the plow and started through the tunnel, several of us walking ahead of the plow to watch closely, so that if the side of the plow hood did not clear the wall of the tunnel, we could whistle the engines to stop and prevent any damage that might occur.

It was slow going and a ticklish job with only lantern and torch light to see by, and to make things worse the gas and smoke from the engines and plow were getting very bad.

Only once did I have to whistle them down as we came to a place in the tunnel where it looked like the plow might not clear, and it was a good thing we stopped when we did for some of the crew found our fireman Johnny Hallock down in the deck of the plow overcome by the gas in the tunnel.

Some of the boys got him off the plow and down on the floor of the tunnel, revived him and took him back to the coach out of the dense gas. The gas didn't seem to bother us much on the floor of the tunnel though it did make us cough a lot.

We finally got a whistle from the rear engine to go ahead so we finished leading the plow through the tunnel and all climbed aboard and drifted on down to Alpine station where we tied up for the night and got something to eat.

It had taken us about an hour or more to get through the tunnel and was close to midnight when we tied up and got something to eat, the first eats we had had since morning so we did a pretty good job at the midnight meal.

The man that ran the boardinghouse there, a fel-



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low by the name of Larry Waters, seemed like a very pleasant fellow but very talkative and was spinning yarns about one thing and another all through the meal.

After eating and making arrangements for a bed I went over to the telegraph office and sent a telegram to my mother and dad who were then in Denver, wishing them a Happy New Year as it was now Jan. 1st, 1910, and New Year's Day. I would sure like to have a copy of that telegram today but I guess Mother destroyed it years ago for I was never able to get hold of it. It would sure be something to look at now.

I don't remember what time it was when we left Alpine station next morning for Pitkin. It was not very early for by the time engines and plow took water and were all looked over it must have been rather late in the morning, close to noon I believe.

From Alpine station to Pitkin was rather a slow trip. We plowed out the cuts and some small slides below the Palisades and around Woodstock, and took water again at Woodstock and it was between 5:00 and 6:00 P.M. when we finally tied up at Pitkin.

The snow was deep in and around Pitkin though it didn't seem to be drifted very much there and the railroad tracks and switches were pretty well cleared of snow so we had no difficulty in turning the plow and engines and spotting them on a side track by the coal bins for a return trip. The engines and plow were taken care of by a night watchman. The plow and engine crews were relieved so we all made our way over to the main part of town for accommodations.

There were also several other engine crews and a train crew of an eastbound freight tied up at Pitkin awaiting the arrival of the plow and the cleaning of the pass. They departed early the next morning for Como.

When we reached the main part of town some of the boys decided they would like to have some Tom and Jerry before we went to the eating house, so I went along to the saloon and we proceeded to violate Rule G slightly by taking on several Tom and Jerrys and boy, did they taste good.

One little incident that I won't soon forget occurred as we were leaving the saloon and crossing the street. The snow was deep and if you didn't stay on the beaten trail across the street you would find yourself in pretty deep snow.

When we were about half way across the street

we found one of the firemen of the eastbound freight who had taken too many Tom and Jerrys. He had wandered off the trail and was down in the deep snow. Perhaps I better not mention his name though I knew him well. Anyway we got him up on his feet and on the trail again and helped him to the boardinghouse and to bed.

The boardinghouse was run by a widow woman by the name of Mrs. Ramey. We all called her Mother. She put out very good meals also good comfortable beds. If I remember right we stayed in Pitkin about three days, for we were held there on account of a severe storm that was putting a lot more snow on the pass and they wanted the plow at Pitkin to open up the road again after the storm.

Anyway, I think it was the morning of the third day of our layover in Pitkin that we were called for the trip back over Alpine Pass to Como, Jan. 4, 1910.

We pulled out of Pitkin about 7:00 or 8:00 A.M. The snow had really piled up in places. We took water at Woodstock and when we got up around Sherrod we began to hit some real heavy drifts. It was slow going, and then between Sherrod and the Palisades we ran into several snow slides that had come down the side of the mountain across the railroad grade, some pretty deep ones almost as high as the plow.

Engineer Annis had warned me to be especially watchful because there was a possibility of rocks being mingled in with the snow in the slides. Also if I heard the rotary wheel hitting any rocks I was to whistle them to stop immediately.

We got through several slides without any particular trouble and just about a mile or so below the Palisades we ran into a large slide, snow higher than the top of the rotary. We had a crew of section men along in the coach and they were called on to shovel down the high snow when we backed out of the cut. This we had to do a couple of times. We were making fairly good progress when all at once I heard the rotary wheel hitting something solid so I whistled them down and we backed out of the cut again.

We had no sooner got stopped than the traveling engineer, George Gray, climbed up into the pilot house of the plow and asked me what was the matter and why I had whistled them down, as we were nearly through the slide. I had seen George Gray in Pitkin but I did not know that he was with the plow train and he took me by surprise when he popped up in the pilot house.



## Personal Stories

I told him that there were rocks in the bottom of the slide and he said he didn't think so and grabbed the whistle cord and whistled the train ahead. I never had an opportunity to tell Engineer Annis what happened until after we had hit the slide again and into the rocks tearing off most of the blades of the rotary wheel. By that time Engineer Annis knew there was something wrong so he whistled the train down and back out of the cut.

Sure enough when we surveyed the damage we didn't have very many blades left on the wheel. They had been torn off and most of them were thrown out the snow chute and down the mountain. We had to get a couple of bull chains and drag some extra large rocks back out of the cut. This was accomplished by attaching the chains to a clevis on the front of the plow.

We carried some extra cutter blades and bolts in the tank box of the plow so after we got the largest of the rocks back out of the cut we proceeded to put on the cutter blades we had. Though we didn't have enough to replace those that were lost, we put on what we had. That took most of the afternoon. John Olsen, Billy Cairns and others all helped. It was almost dark when we at last got through the big slide and to Alpine Station.

I never saw the traveling engineer again. He disappeared back to the coach and never showed up on the plow any more. When I explained to Engineer Annis what and how things happened, he agreed with me that damage done in that big slide could have been avoided if he had been warned in time.

We took water at Alpine Station. Though we were all hungry and tired we were not allowed to tie up so we went on through the tunnel to the east side. We did not lead the plow through the tunnel this time. Engineer Annis and the conductor talked it over while we were taking water at Alpine Station and decided to run the plow through without a lead, and again it was a very slow trip through the tunnel. I had hold of the whistle cord all the way and was sure glad when we made it through without any trouble.

We plowed out quite a lot of snow from the east portal of the tunnel to St. Elmo, a clear, cold moonlit night and it was midnight when we arrived at St. Elmo. The agent there had an order for us to tie up. I don't know yet where all the crews found places to sleep and eat, but the three of us off the plow, after wading through hip-deep snow, found a

cabin close with some beds, mattresses and stoves so we built some fires in the stoves. There was plenty of stove wood so we soon had things warmed up and laid down on the bed mattress for a little rest and sleep.

By the time the crews all got together next morning it was perhaps 10:00 or 11:00 A.M. and I sure hadn't had much to eat, in fact nothing until Billy Cairns called me up on his engine to have some coffee, sardines and crackers. The coffee was made on a scoop shovel of hot coals from the firebox. It sure helped out and had to last until we got to Schwanders.

Lots of snow all the way from St. Elmo until we got down along Chalk Creek nearly to Mt. Princeton. Then it was easy going across the Arkansas Valley from Mt. Princeton to Schwanders where we took coal and water and also a good meal at the section house, as it was about 6:00 P.M. and we were all pretty hungry.

From Schwanders to Bath it was good going. Just a little amount of snow in the cuts and about the same from the top of Bath down into South Park, though after leaving the top of Bath we ran into cuts filled pretty deep with snow and it was rather slow going. Every time we would run into a cut that was drifted in with snow Engineer Annis would widen on the throttle and throw out the snow.

We didn't stop at Platte River tank for water and were running along eight or ten miles per hr. The engine smoke and snow were blowing down over the track making visibility very poor. In fact you could scarcely see track or anything ahead. After leaving Platte River tank about a mile there is a long deep cut and I guess Engineer Annis figured it was about like the others that we had gone through. I am sure he couldn't see any more than I could from the pilot house as there was no headlight on the plow so when the plow slowed down slightly he widened on the throttle, though in this cut it was not the snow so much but a herd of cattle that had taken shelter from the wind and storm.

Annis finally saw some of the cattle at the front of the plow and whistled the train down, but by that time we had made sausage out of some of the cattle and crippled many more. About twenty all told were killed and crippled. Some of the crippled cattle were scattered along the right of way and Annis told Johnny Hallock to take the coal pick and see if he could finish off some of the cripples, but



## Historic Alpine Tunnel

Johnny didn't stay down among the cattle very long for one of the animals took after him and ran him back up on the plow.

Well, we finally got under way again and reached Como about 10:30 or 11:00 P.M., back home, a bath and to bed. Next day I went down to the round house, the plow was in the shop for repairs. The front end of the rotary was sure a mess, broken and bent blades filled with hide, legs and various other parts of chopped up beef which made it somewhat unpleasant for the machinists making repairs.

I was called to the Master Mechanic's office to make a statement as to how it all happened and also to explain how the rotary wheel was damaged. I was never questioned again and never did see the traveling engineer again.

This was my last trip on the narrow gauge and that was the last trip for a rotary plow through the Alpine Tunnel. I left the service shortly after this trip and heard several months later that some of the tunnel had caved in and that the Gunnison Div. was to be discontinued.

It was all a great experience, one I shall always remember.

## William E. Turner

"In 1924 I removed all the rails from the east portal to Hancock, taking these rails up from under the snow and bringing them down by sleds!"

William E. Turner, the contractor who has been taking up the rails on the old C.&S. Railroad between Quartz and Alpine Tunnel, was in town Wednesday for supplies. The contractors came in August 1st and have taken up and delivered at Quartz 650 tons of rails since commencing work. Eight cars of rails were shipped to the Moffat Tunnel and the other iron was scrapped.

*Pitkin Miner* — October, 1923

Bill Turner now resides in Buena Vista. The last car ever to enter Hancock was loaded with hay consigned to Bill Turner. The tracks at that time were in such bad condition the railroad simply left the car at Hancock, not wishing to risk an engine up the grade again. This was in 1924. Two years later, just before the rails were taken up, this car was let down by hand.

Bill Turner acquired his contract by default. The original contractor backed out on his deal and the railroad came to Turner, who agreed to undertake the work under his own conditions. The special cars, built by the Griffin Wheel Works in Denver, had 16-inch wheels with a separate brake on each wheel. The cars were pulled to the working area by horses, and when loaded were let down by hand. These cars were built for the section from the west portal of Alpine to Quartz.

"All the rail that I had anything to do with," said

Turner, "was bought from the railroad by the A. T. Herr Supply Co. The iron was bought on the track and then moved by them."

Turner continued, "I also had the contract to take up the rail from Buena Vista to the Salt Works, but could not make the time limit on it for lack of teams. I turned the contract over to Wilbur Lewis with the agreement that I was to put on what teams I wanted to and he was to furnish the rest. Most of the time we had six 4-horse teams hauling and two or three two-horse teams on the track. Two hundred tons of this rail was shipped to China."

Often, following floods in Trout Creek, which covered the rails with dirt, the railroad would simply lay new rails over the deposit. Turner remembered where many of these rails were buried. He would dig a hole to locate the rails and then run a plow along the rail edges, opening a furrow so many of these rails could be salvaged.

All the iron between the tunnel and Quartz was taken up in 1923, much of it being sent to the Uintah Railroad in Western Colorado. All of this was English steel. "In 1924 I removed all the rail from the east portal of the tunnel to Hancock, taking these from under the snow and bringing them down on sleds."

Discussing the building of the Alpine Tunnel, Bill Turner stated, "Single-bit hand steel was used entirely in the tunnel. These drills ranged from 'start-

## Personal Stories

ers' of 6 to 8 inches in length to four feet in length. In close confines, one man would handle both drill and hammer, using a 'single jack' hammer weighing about four pounds. Where possible, the drilling would be done by teams, one man holding and turning the drill, while the other struck it with a 'double jack' sledge, weighing seven to eight pounds.\* The explosive mostly used was black powder, although some dynamite was brought in. Black powder gave a slower blast with less shattering of the rock.

"Drill bits were forged and sharpened by hand on an anvil and tempered with water. Great skill had to be exercised in tempering, bits being brought to a cherry red, dipped in water, and then removed while still at a high temperature for air cooling."

As a lad Bill Turner often rode the South Park trains. He was acquainted with most of the railroaders and especially with Dave Sanches, a conductor. He recalled many trips down from Alpine, riding freights and being handed a brake club and told to help "club" the brakes. Frequently trains were out of control and unable to stop at St. Elmo to leave freight, which would have to be brought back up next trip.

Although Turner has been back up to the east portal many times, 1923 was the last time he was able to enter the tunnel. At that time the tunnel entrance was pretty well iced up. He climbed over the ice and found, after the first fifty feet or so, that the tunnel was in excellent condition.

\* It is possible that the hammer-head found by Charlie Webb in 1962 was used in digging Alpine Tunnel.

FORM 31 THE COLORADO & SOUTHERN RY. CO. FORM 31

Train Order No. *26* 190

To *St. Elmo*

At *St. Elmo* STATION

x *K* Opr.; *1:10* P.M.

*No 94 will wait at Alpine Tunnel until 2:25 a.m. for no 93. No 94 gets this order at Alpine Tunnel*

*WMB*

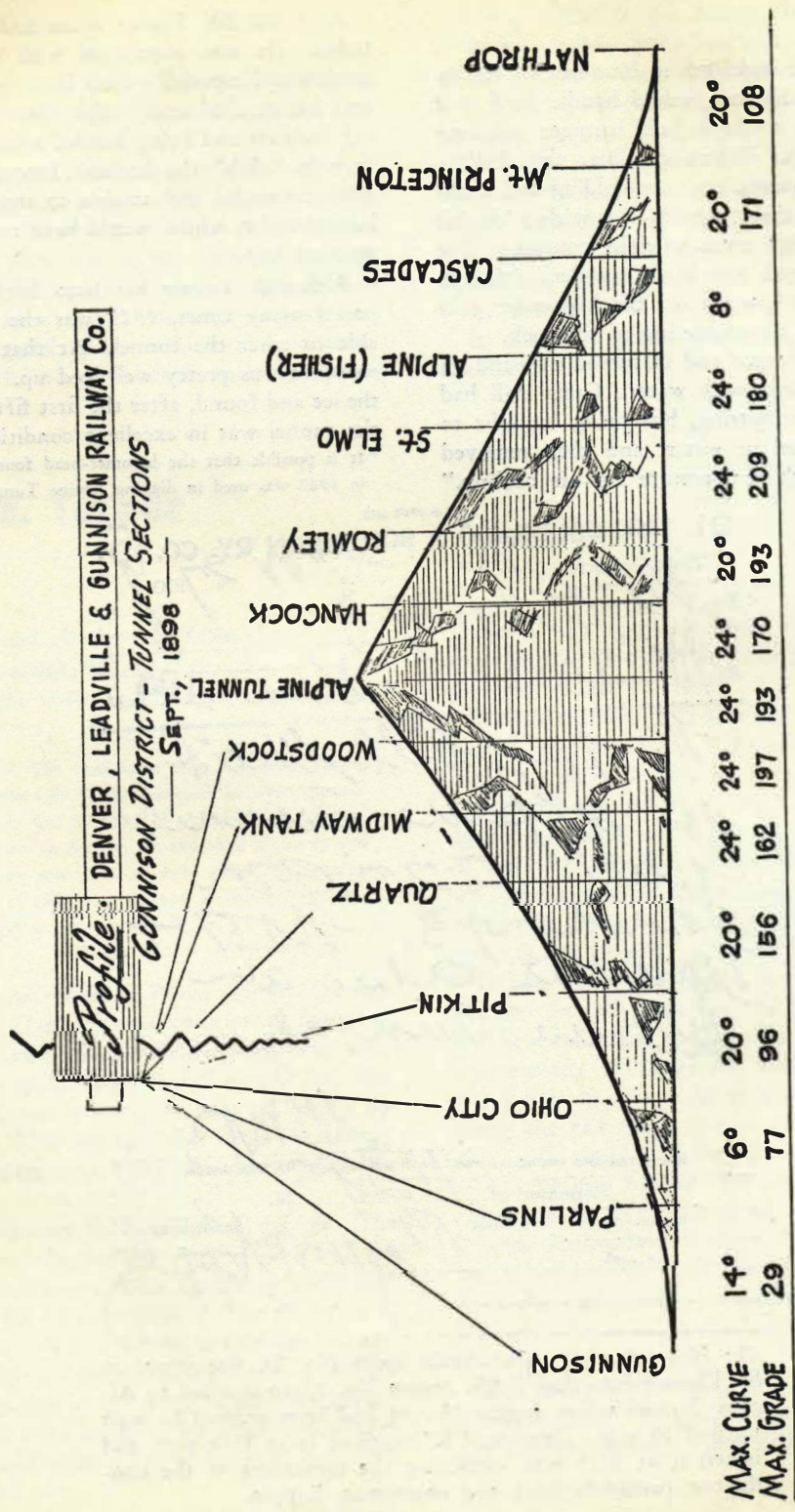
CONDUCTOR AND ENGINEMAN MUST EACH HAVE A COPY OF THIS ORDER.

Repeated at *1:13* P.M.

CONDUCTOR <i>[Signature]</i>	TRAIN <i>[Signature]</i>	RECEIVED BY <i>[Signature]</i>
---------------------------------	-----------------------------	-----------------------------------

On November 27, 1908, train order No. 26 was issued at St. Elmo instructing C.&S. engine No. 93 to proceed to Alpine Tunnel where engine No. 94 had been ordered to wait until 2:25 p.m. Operator "K" received it at 1:10 p.m. and issued it at 1:13 p.m. obtaining the signatures of the conductor (unintelligible) and engineman Kapple.





1

"As the Arab considers it his sacred duty to visit the Holy City of Mecca, it appears that the ambition of every true South Park enthusiast is to make at least one pilgrimage to ALPINE PASS and the PALISADES."

Mac C. Poor, in *Denver South Park & Pacific* — 1949

The following are accounts of four separate adventures on four different "pilgrimages" to Alpine.



# The East Portal

## Three-Mile Stroll Into History . . .

On a glorious July morning in 1960, the author and his family made the three-mile hike from Hancock to the east portal. It was an experience more stirring than words can describe. Over rubble and rotted ties, picking our way through rock slides and snow banks, we reveled in every foot of this dramatic stretch of history.

Towering above and into the distance were the snow-capped peaks of the great Saguache Range, while at our feet coursed rivulets of water coming down from the melting snows of the Continental Divide.

The old trestle at Sawmill Curve near Hancock had long been washed away, leaving a deep ravine. We walked among pine trees so thick and so close to the roadbed it was like passing through a corridor. In contempt of man's puny works, Mother Nature had planted seedlings in the middle of the grade between the rails. These had now grown to a height of several feet, a barrier just in case man ever attempted to string his rails up this way again.

Within a quarter of a mile, we rounded a shoulder of the mountain, and off to our right we saw Chalk Creek and its canyon stretching away into the distant haze. Across the lovely valley, we followed the course of the railroad grade as it dropped away toward St. Elmo and lower altitudes. Below us, at Hancock, we could see our little house trailer gleaming in the early morning sun.

It was easy to imagine the inspiring sight that unfolded before the eyes of travelers as they rounded this shoulder and obtained their first glimpse of thriving, bustling Hancock in a not-so-distant yesterday. In this almost-unspoiled wilderness the shrill whistles of the little engines had echoed from peak to peak and the musical ring of the engines' bells had announced the arrival of "the" train. Little remains today to indicate how busy and how important the town of Hancock was in the early days.

All about on the hillsides were tree stumps, one to three feet high. It required a lot of trees to supply the thousands of ties needed, and when the snow was deep on the ground, the cutters chopped at snow level, rather than waste time digging in the snow to cut at the ground. An empire was being built and they had no time to waste.

Almost hidden among the dense growth of trees on the hillside below the grade we found an old cabin. Upon close inspection we found it to be in excellent condition. In the tiny clearing in front of the cabin was a large stump, with every indication that it had been used as a base for an anvil. Perhaps this had been a workhouse for the gangs constructing the grade.

Now the roadbed became more rugged and difficult to walk on. It was strewn with rocks of all sizes. The narrow right of way followed every contour of the hillside. No time had been wasted making a shelf any wider than was absolutely necessary. Here and there were bits of broken railroad iron, and countless spikes lay everywhere. In many places the rushing rivulets of snow water still found a channel through old wooden culverts.

Many, many of the old telegraph poles still stood, some leaning crazily and others standing straight and true, as if waiting for the linemen to climb and install new wires.

It is supposed, in bygone days, the railroaders had names for every curve and embankment, but these have been lost to history. One particularly interesting section had every appearance of a miniature "Palisade" with its sheer rock cliffs rising perpendicularly on one side, the roadbed supported by stone cribbing on the other.

In several places boulders so large that any one of them could have easily destroyed a railroad coach

## Four Pilgrimages

had rolled down from above. A climber is seldom aware of the grade until he looks back. When we did this, it was a little frightening to imagine bringing a loaded train down such a grade. The rise is almost a steady 4% from Hancock to Atlantic, and, while a 4% grade does not sound large, it assumes a different light when translated into a rise of 4 feet in every hundred feet, or more than 210 feet in every mile!

Again we made a most interesting find. On the mountainside, a few feet below the grade, was a profusion of railroad iron. Much of it was buried among the rocks that had cascaded down during the half century gone by. We concluded that this was the remains of an old wreck. We recovered a rusty brake shoe and brought it back with us.

Columbines grew in greater profusion than the author has ever seen in a lifetime in Colorado. In the soft morning breezes they seemed to gently nod a friendly greeting, smiling welcome into their land of beauty and serenity.

There was little advance notice as we approached the final curve leading into the east portal, but suddenly there it was! Before us was a scene of utter ruin. The tunnel entrance itself was completely filled with rock, snow, and the ruins of crushed snow sheds. Had some wanderer come upon this place and had there been no path of rotting railroad ties leading into it, he would probably have passed it over with hardly a second thought, only musing at what some darned fool had built 'way up here.

We climbed around and among the scattered timbers trying to visualize how thrilling it must have been to travelers when they stepped out of the little coaches to drink in the unsurpassed beauty of the scenery all about while the handsome little engines panted contentedly in the background.

Now we made an especially thrilling discovery! There on the roadbed lay the two doors that protected the tunnel entrance (or the entrance of the snow shed leading to the tunnel) from drifting snows. After more than half a century the doors were in fair condition. Half buried in the dirt was one of the long steel hinges.

Having gone this far, we decided to tackle the steep trail leading over the saddle of Altman Pass across the Continental Divide. This turned out to be quite a climb, even though the distance is not much more than a half mile. This was the route used to haul supplies between the tunnel portals,

and although it was difficult to follow, we did find many clear traces of the old wagon road. It has always been a matter of wonderment that horses could haul loaded wagons over such steep grades, but Altman, Williams, Tin Cup, and Hancock Passes give proof that they did!

After we had crossed a meadow-like, rolling expanse, there unfolded before us a view that left us breathless. Snuggled among the shadows of the great peaks lay Alpine Tunnel Station! From this height and distance the crumbling structures looked like a group of children's tiny toy buildings. We easily followed the course of the roadbed as it climbed toward Alpine Station and curved toward and into the west portal.

How snug—how restful—"how peaceful was my valley"! In eons of time, surely this must have been the resting place of the clouds. Then into this solitude men came with tools to tear a great gash in the mountain and lay a path of steel for snorting, fire-throwing machines. But man is no match for these mountains. Inexorably, unceasingly, bit by bit, piece by piece, year by year, decade by decade, nature patiently toils to restore the solemn enchantment of her tiny valley.

Just a few steps below us were the remains of the buildings which housed the workmen who built the tunnel. Scattered timbers and boards lay in profusion. Here the men who gouged the great hole in the mountain rested, ate, and spun yarns through two paralyzing winters and two short summers. It is no longer possible to tell for certain, but there must have been six or eight structures. We located the foundations of four smaller cabins made of logs and partly dug into the hillside. Doorways to two of these are still intact. We also picked up a window sash, indicating that some of the cabins had glass windows.

One section of flooring is still in place, although the walls are entirely gone, and from the amount of lumber scattered about it is safe to assume there was at least one large bunk house and perhaps more. No stone foundations could be found, since these were temporary structures.

We retraced our steps over Altman Pass, planning to come again via the right of way up from Woodstock, Sherrod, past the Palisades, and into this tiny valley where men fought the mountain and the mountain fought back!



## Construction Camps

"It is Possible That We Were  
the First Humans in This Area  
In Many, Many Years!"

In September, 1962, the author, accompanied by Bill Bruce, Rick Bruce, and Charlie Webb, made another trip to east portal intending to search for possible remains of the old construction camps. We had been advised it would be impossible to get our Jeep over the rock-strewn grade, but we decided to try. It turned out to be quite a ride (and the term "ride" is used loosely). Doubtless we could have hiked it just as quickly. We rode the Jeep to within a thousand feet of the tunnel portal.

In searching through old newspapers and historical documents we had found nothing giving the exact location or any details of the old construction camps, although a few items mentioned camps called Ragtop, Streeters, and Miller. It had long been presumed that these camps had been on the mountainside somewhere between Hancock and the east portal or along the Williams Pass wagon road, above and to the east of the portal. Neither of these premises seemed logical, as there was no supply road along the proposed railroad grade and certainly supplies could not be freighted over the grade while it was under construction.

Supplies could have been brought up the Williams Pass wagon road, but its nearest approach to the tunnel is about two miles distant. For such a huge undertaking as Alpine Tunnel a good road was a necessity!

It required mountains of supplies, freighted over an eighteen-month period, to supply the tunnel workers. The job of hauling the huge redwood timbers could have been done only under the most favorable circumstances possible.

The mystery was solved on a visit to the offices of the chief engineer of the Colorado & Southern Railway Company. In the archives of the C.&S. are all the original 1880 location and construction maps of the Denver South Park and Pacific R. R. All grades, culverts, and curves are meticulously plotted. Carefully detailed was the route of the "Road to Alpine Tunnel"!

Between St. Elmo and Hancock the old Alpine & South Park Toll Road ran along the banks of Chalk Creek on the floor of the Canyon. About midway between Romley and Hancock a small stream joins Chalk Creek from the west, coming down a gulch which was later named Tunnel Gulch.\*

The tiny stream in Tunnel Gulch has its headwaters near the east portal of Alpine. At a point near the junction of this Tunnel Gulch Creek and Chalk Creek, a new road was constructed which followed the north side of Tunnel Gulch Creek up the gulch and beyond its headwaters and then made a reverse loop and turned back to the east portal of Alpine Tunnel.

With these facts established there was no longer any doubt about the location of the construction camps. They must have been level with and west of the tunnel portal. They were!

It is possible we were the first human beings in this area in many, many years, and we became enthralled with the evidence we discovered. It would have been quite a chore to seek out and count all the cabin sites, but we estimated that there must have been twenty or more buildings. Scattered about the clearings were countless notched logs, rock work, and a few partial walls still standing. In many places we observed that cabins had been constructed by leveling into the hillside. Roads through the area were found and easily followed.

Debris was everywhere: heaps of rusty tin cans, nails, broken bottles, sections of stove pipe, and one complete iron range. In every direction, among the pines, were high stumps indicating that these trees had been felled while the snow lay deep on the mountainside.

As souvenirs we brought back three old whiskey

\* Another gulch, on the west side of the range, running from west portal to the grade near Woodstock, was also named Tunnel Gulch.



## Four Pilgrimages

bottles, an enameled wash basin, two shovels, a sledge-hammer head, various lengths of chain that had been used by the teamsters, square nails, a metal oil-lamp base, rusty tools and several tin cans. The latter puzzled us at first. They had been opened simply by plunging a hunting knife into the top at one edge and bringing the point up to create a clean cut. This was done again at a right angle, leaving four sharp, pie-shaped segments.

Not a breath of wind stirred that fall day and the sun looked down with warmth as we stood on what must have been the main thoroughfare of the settlement. All about us were things that eloquently bespoke of the hectic, throbbing days gone by. This had been a settlement without women — a life of excruciating toil and few comforts.

Old photographs show some of these cabins buried in snow up to the roof line. Here, just a few feet below the crest of the Continental Divide the winter months are ferocious. The agony of living was more than many men could bear.

We followed the traces of the old supply road into the box canyon head of Tunnel Gulch and here contemplated one of the great, unanswered questions that has intrigued students of the South Park for many years. Why didn't Major Evans run the line up the west slopes of Chalk Creek and bear along the north side of Tunnel Gulch Creek, placing his grade on the south slopes of the mountain? He could have made a loop in the box canyon, turning back to the east entrance to the tunnel. Had this been done, the rays of the sun would have helped keep the line free of snow. There would have been more snow-free months in each year and less snow to fight.

Standing at the headwaters of Tunnel Gulch we minutely examined and studied the terrain with naked eye and binoculars. We had also brought a copy of the Garfield Quadrangle, Polyconic Projection, of the U. S. Geological Survey.

It is presumptuous, of course, more than eighty years later, to "second guess" Major Evans and his surveyors, but the only conclusion we could reach was that the South Park engineers erred. In our opinion, the only logical reason for running the line where they did was that they could better serve the mines on the east slopes of Chalk Creek, in particular, the Mary Murphy group below Hancock. Another possible factor might have been that the snow deposits were so great in the box canon head of Tun-

nel Gulch that they chose the lesser of two evils and elected to fight the snow on the three-mile section along the north slopes of the main range. Only a visit to this area in deepest winter could shed light on this premise.

Returning to the portal, we had the rare thrill of entering Alpine Tunnel — not very far, only about twenty feet. This can be done only during a brief period each year, as the solid pack of snow in the portal seldom melts before snow falls again.

The east portal of the tunnel is filled with rock and water almost to the springing of the arch. We laid a long plank from the rock in the entrance cut to the dirt of the great cave-in and crawled on that. It was surprising to observe the perfect fit of the arching. The cave-in, which completely blocks the tunnel, is composed of dirt rather than rock. Right at the top of the cave-in a tree root had been brought down in the rush of dirt.

With a knife we dug cautiously into several of the arch members and found the wood to be pine — not redwood. Either these were replacements, or redwood had not been used in this portion of the tunnel.

It had been a big day — a great day! We revved up the Jeep, carefully packed our souvenirs, and undertook the jolting ride back to Hancock. If you should happen to go up there, look for some shredded pieces of bright green metal along the way. We could use these to rebuild one side of the Jeep.

Almost a year later, in the summer of 1963, Charlie and Shirley Webb dropped off the main grade near Romley and searched out the old, abandoned wagon road, shown on 1880 maps as the "Road to Alpine Tunnel," and followed it up the north banks of Tunnel Gulch Creek. This is the route referred to as a "jack trail" in old newspaper reports, which was converted to a wagon road when construction commenced on the tunnel.

With great effort, skillful driving and considerable determination they piloted their Jeep more than two miles up the gulch from which point they made further exploration by foot. Close to the old supply road on the slopes of the mountain they made a startling discovery. Deeply hidden among the underbrush and pine trees were the remains of a large settlement. More than a dozen structures were counted, of various sizes. The largest were of such dimensions to indicate they served as bunk and boarding houses for a large number of men. Since there had never been any mining of importance in



## Historic Alpine Tunnel

this immediate area and because the buildings were almost directly below the east portal of Alpine Tunnel there could be no doubt — this, too, was a tunnel construction camp!

Perhaps this discovery partially explains the mystery surrounding the three names, Ragtop, Miller,

and Streeters, associated with the tunnel's construction camps. Three camps had now been located, two near the east portal and one at west portal. Or, could there be still another undiscovered camp in the vicinity of the east portal? Since almost all supplies, equipment, and materials were brought to the tunnel from the east, through Chalk Creek, this latter point is an interesting speculation.

## High Adventure

"We Had Tasted High Adventure . . .  
We Had Spent Three Hours in a Bygone  
Century!"

As our Jeep rolled into Salida on the night of August 27, 1961, four exhausted rail-fans could look back on 16 hours of high adventure! We had entered and walked through historic Alpine Tunnel! We had spent three hours in a bygone century!

We had left Pueblo at four o'clock that morning with the determination to enter the tunnel, if at all possible. Our route took us over Monarch Pass and up to Pitkin, where we stopped to visit and confer with Art Pearson. Forging Quartz Creek at Quartz, we entered the old grade of the South Park, continuing to Sherrod Loop and the Palisades. The light was so nearly perfect for photography that we spent more time at the Palisades than we had intended, so it was early afternoon when we arrived at the tunnel. After a quick lunch in the historic old Alpine Tunnel Station, we drove our Jeep up the hill, alongside of, and as close as possible to, the cut stones which indicated the apex of the tunnel arch.

Careful study of the slide area showed us the proper place to dig. In the years since abandonment, rock and dirt have sloughed off the sides of the cut, completely covering the tunnel portal. The dirt has actually piled up about three feet above the top of the arch. Hence we had to excavate downward to enter the top of the tunnel!

Although nature had sealed off both portals and emphatically said "Stay out!" two other dedicated railfans, James Ozment and Paul Chandeysson, had entered the tunnel a year earlier, in August, 1960. Now it was our turn.

The pitch of the slide area at the portal is so steep it was difficult to maintain footing. Viewing the area head-on is entirely different from looking directly up at the exposed rocks. From below, the huge rocks appear treacherous and ready to let loose at any moment and come crashing down. This made us apprehensive and reluctant to disturb any more earth or rock than was necessary. We didn't want to move "that particular pebble" that might start another slide from above.

A huge 12 x 12 timber lay imbedded, horizontally, directly across and just a few inches in front of the arch stones. It was clear that we would have to remove the dirt and rocks from between the stones and this timber. The work was slow, tedious, exhausting, and we had just about abandoned the effort, when Charlie Webb, with one mighty thrust, sent the point of our long steel bar plunging through the bottom. We could hear stones splash into water, so we were certain that we were just inches from breaking into the tunnel itself. By forcing the remaining dirt and rock down into the hole, we enlarged the opening. It was necessary to shore up the sides of the hole to keep out the dirt sifting from above.

When all seemed secure, Charlie Webb slipped into the hole and out of sight. He excitedly reported back to us that he was in! His flashlight showed that he was perched on the apex of the pile of dirt which blocked the portal and was sitting right under the

## Four Pilgrimages

keystone of the arch. He could push the loose dirt both ways, into the tunnel and outside under the hodge-podge of crushed snowshed timbers. He enlarged the space under the hole and made it easier to enter and bring down our photographic equipment.

Cameras, strobe lights, power packs, flashlights, and rubber boots were brought over from the Jeep, and a council was held to decide who would enter the tunnel, what safety precautions should be observed, and what would be done in case of accident.

It was decided that Webb and the author would enter the tunnel, while Clarence Bennett and his son, Larry, would stand vigil at the entrance. Those in the tunnel were to report back in exactly one hour. The time was 5:00 p.m. In addition to the photographic equipment, we included a small shovel and a steel pinch-bar.

Sliding out of the bright daylight into the blackness of Alpine Tunnel was an experience that we will not soon forget. We paused for a time on top of the pile of dirt, pulling on our rubber boots and trying to get adjusted to the darkness. As we played the beams of our flashlights about, a thrill ran up and down our spines. For there it was, in all its sombre symmetry — the arched roof overhead, supported by the redwood planking and the stalwart redwood timbers, standing shoulder to shoulder along the walls. Under the water at the foot of the sloping dirt were the historic rails of the South Park!

The water was crystal clear until we muddied it by walking through. It was about a foot and a half deep and extended into the tunnel nearly sixty feet, where we came upon large quantities of fallen rock of all sizes. The next one-hundred-foot portion of the tunnel had never been timbered. Apprehensive of possible loose rock overhead, we scrambled over this fall as quickly as possible and came to the beginning of the long, well-timbered section, leading eastward to the apex and on to the curve at east portal.

Although it was very damp and the roadbed was muddy, there was no water standing on the grade in this area. We decided to set up our cameras, placing the view camera in the center, a Rollei on one side, and a Leica on the other.

There are countless phrases to describe darkness, but none adequately describes the utter blackness of the interior of Alpine Tunnel. The beams from our flashlights were swallowed up in the blackness. The timbers and walls were so dark there was no reflec-

tion, simply a small spot of light wherever the beam was directed.

Although we had carefully planned our photo procedure in advance, we found it difficult to set up and adjust the cameras. I proceeded into the tunnel some distance and then turned and directed the beam of a flashlight toward the cameras. By placing this dot of light in the center of the viewfinders, Charlie was able to direct them correctly. As one walks along the decaying cross-ties, the marvel of engineering of days long past unfolds itself.

Returning to our set-up, I undertook the care of the cameras while Charlie shouldered the power pack and started exposing the films by making multiple flashes with the strobe light. The cameras, on tripods, were set for time exposure.

He proceeded into the tunnel, going from side to side and firing a flash every few feet. For each flash, Charlie squeezed tight against the lagging between the uprights to avoid showing in the pictures. We had now been in this darkness a sufficient time for our eyes to become as fully adjusted as possible, and from my position, each flash of the strobe unit appeared more brilliant than any light I had ever seen. When Charlie had gone as far as we felt necessary, I signaled him with a flashlight, changed films in the cameras, re-set the shutters and readjusted the apertures, and the series of flash exposures was repeated as he returned to camera position.

Our first hour had been used so we returned to the portal to report our activities and our well-being and then quickly returned through the water and across the fallen rock for further inspection of the tunnel.

Regarding his experiences in the tunnel, when accompanied by Paul Chaneysson the preceding year, James L. Ozment wrote, "After proceeding some distance we held the lantern to examine the track and observed that the water in the ditch alongside was flowing eastward. We concluded therefore that we had crossed the Continental Divide inside the tunnel. We went back westward, and I knelt down and sighted along the top of the rails and observed the track going over the top of the apex in a slight vertical curve. We walked up to the apex and held the lantern high, searching for the red lantern which once hung at this point to indicate to passing engineers the change in grade, but no signal light or even a nail from which it would have been hung was found. We did find an old track shovel



## Historic Alpine Tunnel

and this is now on display at the Colorado Railroad Museum in Golden."

Jim Ozment continued, "The entire tunnel is very damp, the rails are covered with rust, and the timbers have patches of a white growth on them. We proceeded into the tunnel with a feeling of both excitement and considerable uneasiness, for we knew we were the first human beings inside the famous bore in a number of years and we had no way of knowing what was ahead or what the condition of the air might be."

The rails are in place throughout the tunnel, securely fastened to the ties. This is the only place remaining of the far-flung system where one can actually walk on the ties and rails of the old South Park! With our pinch-bar we pulled a number of spikes for souvenirs. Considering the dampness and the passage of eighty years, it was astounding how difficult it was to get them loose. We probably tried twenty or more spikes to obtain the six we recovered. Examining them closely, we found they were rusted from head to point. The ties, while damp and seemingly soft on top, were very firm and solid inside. When we sighted down the track, the rails appeared straight and well-aligned. Although completely covered with a thick coating of rust, we found this could be scraped off down to solid iron.

Water stood in the drainage ditches on each side of the rail bed, moving slowly toward the portals. Many, many old wooden spacers were still in place, firmly holding the rails and ties in position.

As time passed our eyes became more accustomed to the darkness and, with the aid of our flashlights, we found we could see our way about quite well. The tunnel, as statistics show, is very small. But as our stay inside lengthened, in our minds, it increased in size, until it seemed to be huge. This same effect is obtained by viewing the photograph for any period of time.

At three places we attempted to scrape the dirt and rust from the sides of rails to read the manufacturer's name but nothing could be found. We were very surprised at the large piles of cinders alongside the rails. Even though the ruling grades in the tunnel are not steep, it was very evident that the little engines had to work hard to drag their trains through this bore to the pitch-over. Inside the tunnel, where there was never wind or rain to wash or blow them away, the cinders had accumulated and congealed into a black, muddy substance.

The massive upright redwood timbers were wet, cold, and slimy. The pure white fungus, on timbers throughout the tunnel, imparted a startling and artistic appearance. With the sharp end of our pinch-bar we prodded and dug into several of the redwood uprights and found the wood both firm and solid. Not wishing to invite trouble, we did not pursue this undertaking very long.

Just west of the apex we came upon a breakthrough of the north wall where one of the uprights had given way and rock had forced its way into the tunnel, covering about half the road-bed. We made several photos of this, only to find later that something, perhaps the dampness, had ruined the flash synchronization. Somewhere we walked over the spot where Dad Martenis, Mike Flavin, and the others lost their lives. It was not a comforting thought. Neither was there much comfort in contemplating the millions of tons of mountain over us, waiting patiently to crush and obliterate this tiny eyelet, blasted by men through the heart of the range.

There was no echo when we shouted. In fact, it was difficult to make ourselves heard any distance. The dampness of the timbers absorbed the sounds. The massive 12 x 12 redwood uprights are not spaced evenly, some about four feet apart and others almost side by side. In one section on one side there are no uprights, as the legs of the arch rested on a rock shelf. The lagging appeared to be in excellent condition, although a few breaks had let rocks of varying sizes fall on the roadbed.

We found a number of used flash bulbs which **may have been** left by Ozment and Chandeysson on their visit a year before.

At no time did we have indication of an insufficiency of air or that it was contaminated in any way. Small droplets of water continually fell from the tunnel roof. So absorbing and exciting had been our trip that we were astounded to note that we had been in the tunnel three hours! With reluctance and a deep feeling of awe, we packed our gear and returned to the opening, where our friends were relieved to see us and know that there had been no mishap.

It was now past eight o'clock in the evening. Compared to the tunnel, the star-lit outside world seemed bright.

We had tasted high adventure! We had walked the ties and rails of the South Park! We had spent three hours in a bygone century!



## Rust, Rubble and Romance

The Most Historic Square  
Mile of Railroadiana in  
the World.

Yesterday's railroad is a path of rotting ties, gently curving and climbing through some of the most spectacular mountain terrain in all of Colorado. Over a right of way deep with cinders and garnished with a sprinkling of rusty spikes, we followed it into the forgotten past. Its path led us to the top of the continent and the impenetrable barrier of the Continental Divide, where it plunged into a hole in the earth!

At Pitkin, while our Jeep was being serviced, the station attendant discussed the tunnel trip and mentioned that there had been talk of opening the Alpine Tunnel for automobile traffic. Just a block off Pitkin's main street stands the old South Park depot, long used as a private dwelling but now vacant and boarded up.

About two miles above Pitkin, at the junction of the north and middle forks of Quartz Creek, once stood the thriving little town of Quartz, now entirely gone. Just above this we left the highway that leads over Cumberland Pass to Tincup and, since the old railroad trestle is in ruins, we forded the Creek to enter the old South Park grade. We were now on our way to Alpine!

The narrow right of way clung to the southern slopes of the mountains, as it twisted and turned, ever climbing to gain the altitude necessary to reach Alpine. As we drove through the early morning hours, we could watch Middle Quartz Creek drop lower and lower. The morning sun created shimmering patterns of shade and sunlight as it lanced through the aspen and pine trees.

Suddenly we came upon the first of two old water tanks. Here the little engines of the South Park quenched their thirsts and prepared for the long pull to Woodstock. This was known as Midway Tank, now in utter ruin. Timbers and boards were scattered about and the steel bands that once circled the tank hung crazily and dropped almost to the ground. The little that is left of Midway Tank cannot possibly stand much longer, and when it falls, another

"charm" from the old South Park's "bracelet of memories" will have vanished.

As we left Midway Tank an air of expectancy seemed to grip the passengers of our Jeep. Now Quartz Creek was far, far below us and scenery of indescribable beauty opened up on every side. The steady climb had taken us high above the valley floor, while before us unfolded the breathless panorama of the mighty Saguache Range — the Continental Divide!

We paused and with our binoculars searched the magnificent vista before us. Clearly visible were the three passes through the main range, Altman on the left, Williams Pass in the center, and Hancock Pass off to the right. We were able to follow the route of our little railroad as it climbed bravely across the slopes of the timberless peaks toward Alpine Tunnel.

A sweeping turn to the right took us directly under the upper level of the railroad grade. The canyon below was not nearly so deep now as we were approaching the headwaters of Quartz Creek. Alongside the road was a sign pointing the way to Alpine Tunnel via a foot trail which wends its way up Tunnel Gulch.

Shortly there loomed before us the second water tank. This was known as Tunnel Gulch Tank, last water stop before the engines tackled the heavy grades to the tunnel. This was the tank built to replace the original Woodstock Tank, which had been destroyed in the slide. Tunnel Gulch Tank is in much better condition than Midway Tank, although it leans so heavily it cannot possibly withstand nature's assaults much longer. Up one side was a long ladder. Trees and underbrush have grown closely around it. Now the sun was high in the sky, the air warm, and the atmosphere so clear it seemed one could almost reach out and touch the mountaintops. Glancing up, we could see some of the stone work built to support the railroad grade.



## Historic Alpine Tunnel

Before us, in all its naked brutality, was the remains of the disastrous Woodstock slide. A lone sign stands beside the road in commemoration of the thirteen persons who lost their lives in the great Woodstock snow slide. No railroad structures remain, although on the up-slope side of the grade are the "six stones of Woodstock" where the great water tank stood. The supply pipe for the tank still gurgles with a flow of water. Below grade are the remains and partial walls of several of the old cabins that sheltered the brave people of Woodstock. The long Woodstock siding has all its ties in place, although there are no rails. Granite stones as large as the Jeep had roared and crashed down the mountainside, pulverizing everything that stood in the way. It was frightening to contemplate the devastating power of such a rock and snow slide.

We entered the Sherrod Curve almost before we realized where we were, so thick was the vegetation. We searched in vain to locate the spot where the old toll road crossed the railroad grade but could not locate it.

In the center of the curve, the picturesque little pond still stands, gathering its water from tiny Missouri Creek which flows into Quartz Creek at this point.

Now the mighty ramparts of the Saguache Range towered directly above us, and we followed, by eye and binoculars, the route of our little railroad as it made the final climb toward Alpine. This is indeed one of the great sights of the Rockies! The Palisades are clearly visible from Sherrod. To our backs stood Paywell Mountain, thrusting its slide-scarred summit 12,275 feet into the clouds. The three peaks in front of us have never been named.

Right at the start of the three-mile tangent to Alpine, we passed the old Hancock wagon road. It's a Jeep road now, leading to the south and east and crossing the range into Hancock. We planned to return by this route.

Until mid-summer of 1960 the ensuing three miles of grade was impassable to truck or jeep. Huge granite boulders and rock slides had blocked the way, filling cuts and narrowing the passage.

In the summer of 1960, Gunnison County sent a "Cat" to clear the way to Alpine. The road could hardly be designated as a Freeway, but it is easily passable for Jeeps and trucks. The grade, of course, is not steep, the problem being to have sufficient

clearance under the vehicle to avoid damage from rocks.

The much-admired and often-photographed area of the Palisades is about a mile upgrade from the Sherrod Loop. This, surely, is one of the truly grand sights of the Rockies! The great wall of fitted stones built to support the railroad grade, appears as strong, substantial and safe as the day it was built, more than eighty years ago. Along the base of the great wall is the rock-strewn Alpine & South Park Toll Road, steeply threading its way up from the Quartz Creek valley toward the saddle of Williams Pass and crossing the South Park railroad grade a short distance upgrade from the wall. Above the toll road and above the wall, reaching skyward are the fascinating rock formations from which this area takes its name — the Palisades!

Geologists would refer to these mountains as "old mountains," for their slopes are etched and scarred with countless rock slides. Rubble constantly slips and slides down from these timberless reaches. Passing over some of these slides was like driving the Jeep through a sea of rock. It made us a bit apprehensive to contemplate the dire consequences, should a new slide start while a small vehicle was crossing such an expanse.

Beyond the Palisades we crept through rocky cuts and around sweeping curves across the face of the final mountainside before entering the valley of Alpine station. Then suddenly before us unfolded the tiny valley that sheltered Alpine! A hushed awe fell over us. It was like entering a great cathedral.

We had traced yesterday's railroad into a bygone era. We had entered the most historic square mile of railroadiana in the world. The long trail of cinders and discarded ties had led us to the brow of the Continental Divide, where gaudy little trains had slipped into "a link of darkness."

Utterly abandoned, left to the ravages of lashing storms, the works and triumphs of thousands of men are slowly, inexorably being reclaimed by Mother Nature.

There, in calm, quiet dignity stood Alpine Station, so tiny, so alone! Battered by countless storms, windowless, with much of its roof blown away, the little depot seemed ready and anxious to welcome the next train, unaware that there would be "no train today."

We were alone that afternoon as we stopped our Jeep on the right of way directly in front of the

#### Four Pilgrimages

station house. Entering the little room seemed like being invited into the parlor of an old and beloved friend. To our left was the bench for waiting passengers. Against the far wall was the old train-master's cabinet with its hinged top; inside was a book in which visitors were requested to register. The large number of names of persons who had visited Alpine was surprising.

The old sign "ALPINE TUNNEL" that once graced the roof is gone, perhaps taken by some railfan as a souvenir.

The two-story boardinghouse that stood next door to the station had given up its fight for existence, collapsing under the winter snows of 1959. Only a pile of weathered boards and timbers remain of this haven of rest and hospitality of bygone days. Across the tracks are the tumbled ruins of the great stone engine house, reminiscent of old Roman ruins. Following the fire of 1906, which destroyed the engine house, the stone walls stood for many years, gradually succumbing to the relentless attacks of nature. Underbrush fills the interior and rubble is everywhere.

A little way below the depot stands the old coal-ing platform, still in fair condition, hoarding a few chunks of coal just in case a hungry little Baldwin should happen along.

Following the grade again, we rounded the curve past the shoulder of a mammoth rock slide, a slide that came down from the mountain long before the men of Alpine came to this valley. To our left were the remains of the turntable with some 40-pound rails still in place. Across from the turn-table were the ruins of the water tank.

In all its massive glory the full sweep of the Continental Divide loomed before us! Rugged, brutal, majestic, forbidding, but with a fascination that stirs the souls of true mountain people!

It was here the men of the South Park made history. It was here they did the impossible. It was here that hard labor, bitter cold, and lashing storms were just part of the day's work. Of these, empires are built.

The deep piles of cinders along the grade testified to the struggle required of the little "tea kettles" to move their trains up to the west portal of Alpine Tunnel.

The grade took us directly into a gash on the mountain. This was the cut that led to the tunnel entrance. We found it filled with a helter-skelter of timbers from the crushed snowsheds. Driving our

Jeep off to the left of the cut and up the hill a bit, we parked and walked over to the west portal. Granite and gravel constantly sloughing off the Continental Divide have covered over and sealed the portal. Only a few cut stones are visible to pinpoint the tunnel site.

It is often said that the tunnel is packed solidly with ice, but this is not true. Insulated by five hundred feet of mountain, the water in the tunnel never freezes.

At the west portal the rails run through and under the scattered timbers. Where they stick out, we saw that some avid fan had cut away a length of rail with a cutting torch. No mean feat, but what interesting paperweights can be cut from this piece!

The saddle of Altman Pass is some five hundred feet above. Traces of the old wagon road can be seen, but much of it has been obliterated by rock slides.

Telegraph wires were not strung through the tunnel. Several of the old poles that carried the telegraph wires over the pass still stand and could be used today. The old harp-type switches are gone, probably removed as souvenirs. In addition to the rail at the portal, some rail can also be found at the turntable and at one end of the sidings, buried under the brush and turf. Rusty spikes and broken pieces of iron are scattered about in abundance. We gathered a few spikes, which, when coated with gold paint and lettered, make interesting remembrances.

With reluctance and a last look, we returned to the depot. As the long shadows of the setting sun gathered over Alpine, we stood quietly before the little station house. With half-closed eyes, we could distinctly hear the rhythmic chatter of the telegraph key in the office, guiding the destinies of a great railroad.

In our imagination we listened intently for sounds of the night train for Denver, due soon. And sure enough, ever so faint, ever so clear, ever so plaintive, we did hear the whistle of a valiant little Mason, and the gentle huff, huff, huff, as it labored with its train around Sherrod and up past the Pali-sades.

In the awesome silence of twilight, here on the roof of the world, we too could hear these mournful whistles, just as distinctly as the little station could hear them. Now we understood why it waited so patiently, so proudly, so confidently. There was work to do, friends to greet, and orders to be given to the train crew.

The past is only yesterday. . . .



# ROAD & TRAIL MAP = TO = SCENIC ALPINE PASS NARROW GAUGE RAILROAD TUNNEL GUNNISON NATIONAL FOREST

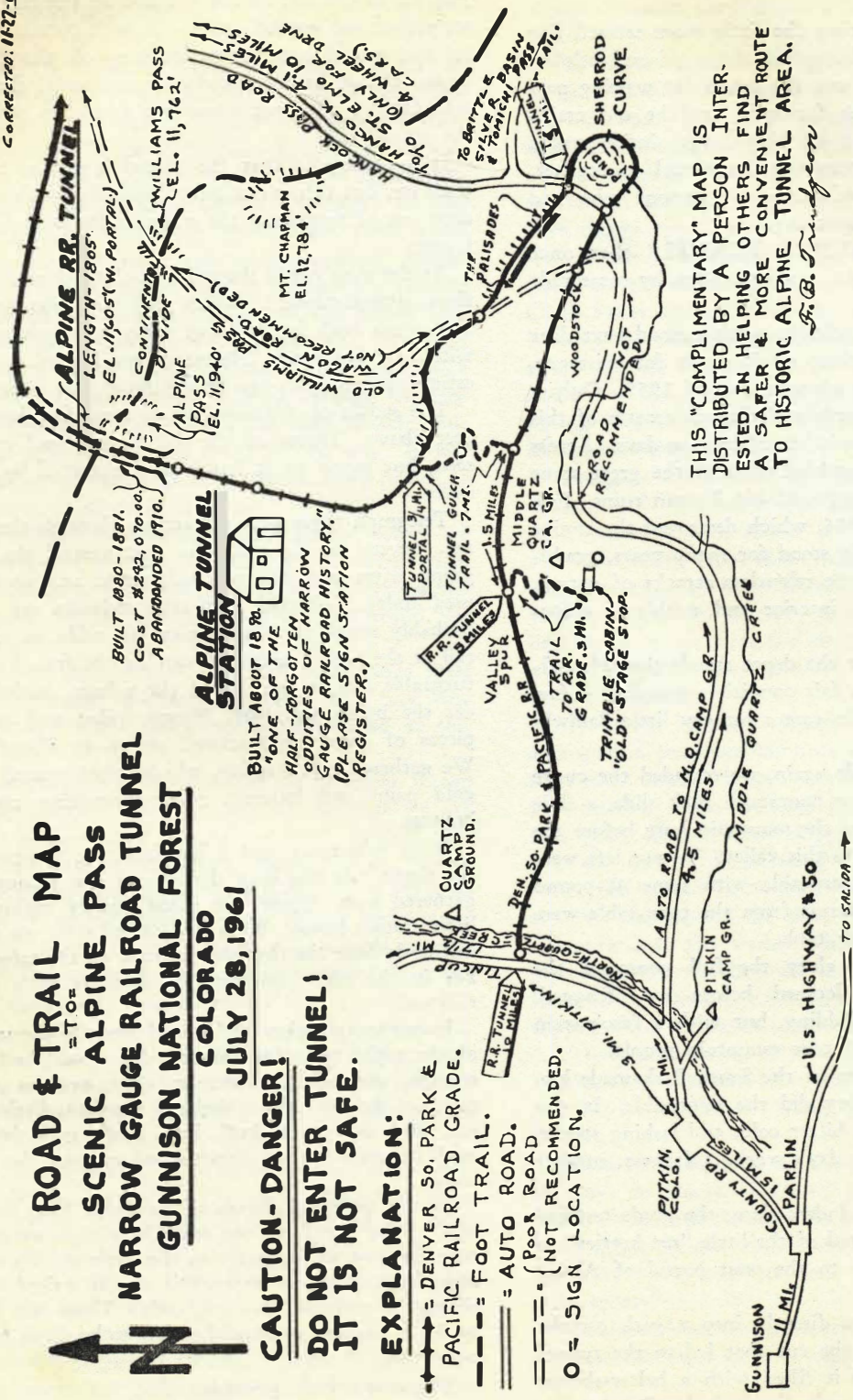
COLORADO  
JULY 28, 1961

**CAUTION- DANGER!**  
**DO NOT ENTER TUNNEL!**  
**IT IS NOT SAFE.**

## EXPLANATION:

- +—+—+— = DENVER SO. PARK & PACIFIC RAILROAD GRADE.
- — — = FOOT TRAIL.
- == == == = AUTO ROAD.
- --- --- = POOR ROAD
- o = SIGN LOCATION.

CORRECTED: 11-27-62.



No one has greater affection for Alpine than Francis B. Trudgeon, who saved the historic old depot from oblivion when he made extensive repairs and installed a new roof, in 1959. Copies of this map are published and given free by Francis Trudgeon to all who ask for a copy. In late 1963 Trudgeon found an old redwood timber near the tunnel and from it constructed a replica of Alpine's arch, near the west portal







## To Visit Alpine Tunnel

Take a Trip to Yesterday,  
Visit Historic Alpine Tunnel!

If these pages have aroused your interest in this historic country and you would like to go up there, these suggestions may aid you.

The easiest trip is to the west portal via Pitkin. Turn from U. S. Highway 50 at Parlin, 12 miles east of Gunnison and drive 16 miles north to Pitkin. Continue another three miles to a clearing on the right in which there is a directional sign pointing to Alpine Tunnel. Ford the North Fork of Quartz Creek and you will be on the South Park grade. Continue to Woodstock, Sherrod Loop, Palisades and the west portal. Hike over Altman Pass, less than a mile, to the east portal. This route is easy in a Jeep or truck. Automobiles can make it to Sherrod and perhaps the tunnel, with care, the danger being from rocks on the grade.

Another trip out of Pitkin is the road up Middle Quartz Creek, Jeep or truck only. This passes Trimble Cabin but ends at some beaver ponds. From this point a spectacular view of the grade, high on the slopes of the divide, can be had. Well worth while.

From Sherrod Loop or Woodstock, note the old toll road near the creek and follow it down hill to the ghost town of Alpine Hill Lode. Very interesting. Jeeps only.

From Sherrod Loop take the road into Brittle Silver Basin and cross Hancock Pass to Hancock, about four miles. In Brittle Silver Basin take the fork to the left and ascend the pass. The other fork goes toward Tomiehi Pass, which is blocked. Jeeps only.

At the foot of Tunnel Gulch there is a directional sign pointing to a foot trail to the west portal. Very steep. Seven-tenths of a mile.

At the Palisades the old wagon road takes off for

Hancock via Williams Pass. Treacherous, for Jeeps only. Great care must be used on Williams Pass. Descending the east side of Williams a magnificent view of the railroad grade and the east portal may be had.

From the east, proceed to Nathrop, seven miles south of Buena Vista. Turn west into Chalk Creek and proceed to Mt. Princeton Hot Springs. Here the road forks. To the left is the railroad grade while straight ahead is the old wagon road. They rejoin at the Cascades. Continue to St. Elmo, where the road forks again. The right fork leads into St. Elmo, the left fork continues the grade to Romley and Hancock, which is the end of the road for automobiles.

From Hancock hike up the old grade to the big gully at Sawmill Curve then three miles to east portal on the railroad grade or drive it in a Jeep. To cross the deep gully at the edge of Hancock at Sawmill Curve, bear to the left. From east portal hike over Altman Pass to the west portal.

To drive Williams Pass from Hancock, take the first sharp turn to the left on the other side of the gully, then make a very sharp turn to the right and you will be on Williams Pass road. Continue to the Palisades.

The easiest way to get to the west portal from Hancock is via Hancock Pass. Take the road toward Hancock Lake (on the leg of the old DSP&P Wye) and take the first, very sharp turn to the right. This rounds the shoulder of the hill above Hancock and crosses the main range into Brittle Silver Basin. At the foot of the hill take the right fork to the Sherrod Loop. Jeeps only. Steep but not dangerous.

## Speaking of Tunnels

Tunnels have a fascination all their own. Every tunnel has an interesting story, sometimes of its inaccessible location, sometimes of intricate engineering problems involved in its construction, often of some incident connected with its use. The railway tunnel usually shortens the distance or, in mountainous terrain, makes passage possible. Elevations along the entire Continental Divide in Colorado are so high that, though tried, no railroad ever operated successfully crossing the main range other than through a tunnel.

Most dramatic of all railroad tunnels was the great Alpine Tunnel, because of its high altitude, because it represented the first assault on the Continental Divide by any railroad, because it was the first tunnel of any kind to penetrate the main range, and because of the primitive methods required to construct it.

Just six years after the completion of the Alpine Tunnel came another spectacular bore, the Hagerman Tunnel, constructed by the Colorado Midland Railroad in its march from Colorado Springs to Aspen and Glenwood Springs. The Hagerman Tunnel pierced the Continental Divide in the range west of Leadville, passing through the shoulder of Mt. Massive. It was slightly longer than Alpine, being 2,061 feet in length, and its altitude was almost identical with Alpine at 11,528 feet above sea level. Like the South Park, the Midland fought staggering battles with snow, and when the Busk Tunnel Company completed the Busk-Ivanhoe Tunnel in the same location almost 600 feet lower in elevation, the Midland contracted to route its trains through the new tunnel. The Busk-Ivanhoe Tunnel ran almost directly under the Hagerman.

After the Midland R. R. discontinued operations, the Busk-Ivanhoe was re-named the Carlton Tunnel, in honor of Mr. A. E. Carlton, the last owner of the Colorado Midland, and was used as an automobile highway for many years. Presently the Carlton Tunnel is used for water diversion and no traffic through it is permitted. The Carlton Tunnel is 9,394 feet in length and its altitude is 10,948 feet. The long abandoned Hagerman Tunnel is slowly crumbling. Like Alpine, Hagerman's portals are being closed by slide rock and dirt, slipping down into

the cuts from the mountain above, although entrance can be made at the time of this writing. It would require a small boat to examine the Hagerman from its west portal as water covers its floor to a depth of about six feet. At the east portal ice covers the floor from the portal to a cave-in, which could be crossed if anyone cared to take the risk.

A third tunnel will be built in this same area, when work gets under way on the Fryingpan-Arkansas water diversion project. The Fryingpan Tunnel will pass directly below both the Hagerman and the Carlton tunnels, at an altitude of about 10,000 feet and new tunnel's length will be 5.3 miles.

By the time the Moffat Road was being built westward from Denver, steam shovels had been devised. Engineers and contractors who inspected the original Rollins Pass route, with intention of bidding the project, said the work would be impossible.

James B. Orman of Pueblo and his partner William Crook undertook the contract and completed it. The first contract, in 1902, included the building of 28 tunnels.

For almost twenty years the railroad fought epic battles with snow on Rollins Pass.

With the completion of the Moffat Tunnel in 1927, the railroad was re-routed and the Moffat Tunnel, under the shoulder of James Peak, became Colorado's most famous tunnel—perhaps the most famous bore in the United States!

Often called the "Queen of Tunnels," it is 6.2 miles in length, 24 feet high and 16 feet wide with its elevation at the apex being 9,242 feet. Cost, about 18 million dollars.

The first railroad tunnel to be constructed in the United States was 901 feet in length, 25 feet wide, 21 feet high and carried the double tracks of the Allegheny Portage Railroad through the Allegheny Mountains near Johnstown, Pennsylvania. It was completed in 1833 and abandoned when the Pennsylvania R. R. established its present main line in 1854.

The longest railroad tunnel in the Western Hemisphere is the Cascade Tunnel, 7.7 miles in length



## Historic Alpine Tunnel

passing trains of the Great Northern Railway through the Cascade Mountains.

The longest railroad tunnel in the world, Simplon No. 2, carries a line of the Swiss Federal and Italian State Railways through the Swiss-Italian Alps for a distance of 12.32 miles. This international tunnel was opened in 1922.

The highest railroad tunnel in present use in America is Tennessee Pass Tunnel on the Denver & Rio Grade Western Railroad. Located west of Leadville, it is at an altitude of 10,221 feet, is 2,550 feet in length, and is concrete lined.

The highest railroad tunnel in the world is the Galera Tunnel on the Central Railway of Peru, in the Andes Mountains, reaching an altitude of 15,694 feet above sea level. Oxygen is carried for the passengers.

The shortest railroad tunnel in the United States is the Bee Rock Tunnel, just 30 feet in length and located on the Cumberland Valley Division of the Louisville & Nashville Railroad of Virginia.

The only natural tunnel in the world used by a railroad is Natural Tunnel near Big Stone Gap, Virginia.

In 1958 the Southern Pacific R. R. retired a tunnel in the Cascade Mountains which for decades had enjoyed the honor of being one of the world's rail-

road oddities. The unique feature of this 163 foot tunnel was that it didn't go anywhere and had only one portal. It was drilled into the mountain-side to accommodate a wye tail track.

Few engineering marvels in the United States equal the Tehachapi Loop on the Southern Pacific's line between Los Angeles and Bakersfield, California. In its ascent and descent of Tehachapi Mountain, trains pass through fifteen tunnels.

Most extraordinary tunnels in the Western Hemisphere are the Spiral Tunnels on the Canadian Pacific in British Columbia. Tunnel No. 1 makes a 3,206 foot loop inside Cathedral Mountain and near the portals the rails pass over themselves at a difference in height of 54 feet. Within just a short distance the rails enter Mount Golden, again making a loop inside the mountain of 2,890 feet and emerging with a difference of 45 feet in height. Together the two tunnels form a figure eight, each half under a different mountain.

Most famous of England's early day tunnels was on the six-mile Canterbury & Whitstable Railway, opened for use in 1830. This tunnel was not necessary for operational purposes, being constructed for the sole purpose of giving passengers a thrill.

The only narrow-gauge railroad tunnels still in use in the United States are the two tunnels near Toltec Gorge on the Rio Grande's trackage between Alamosa and Durango, Colorado.

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To Colorado's Restless Ghosts, Inez Hunt and Wanetta Draper.  
Railroads and the Rockies, Robert H. Ormes.  
Colorful Colorado. Ralph C. Taylor.

## Magazines:

Trains Magazine.  
The Colorado Magazine: "The Old South Park Railroad."  
Albert B. Sanford.  
Engineering News.

## Personal Papers:

The personal journals of Col. Leonard H. Eicholtz. Archives, University of Wyoming.  
Personal writings and photographs of Charles C. Squires.  
Personal Albums of Roy Morton.  
Historical Documents, Archives Union Pacific Railroad, Richard Tincher.  
Personal Collection of Tom Miller.

## Special Help and Interviews:

All who so kindly granted personal interviews. Credited in text.  
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Opal Harber, Western History Department, Denver Public Library.  
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Chas. O. Morgret, Assn. of American Railroads.  
Colin L. Moore, Gunnison, Colo.  
Clyde Chandler, Salida, Colo.  
Ernie Morgan, Buena Vista, Colo.

## Maps:

Army Map Service (SX) Corps of Engineers. Transverse Mercator Projection. "Montrose" No. NJ 13-4 Series V502P Plastic Relief Map.  
Colorado, Garfield Quadrangle, Polyconic Projection, by U. S. Geological Survey.  
Road and Trail Map to Alpine Pass and Narrow Gauge Railroad Tunnel, compiled and published by Francis B. Trudgeon, 1020 S. Steel St., Denver, Co.

It would be unthinkable to mention the old South Park Railroad without also mentioning and paying tribute to Mac C.



## Historic Alpine Tunnel

Poor and his monumental history of the entire railroad, *Denver, South Park & Pacific*, the most scholarly railroad history ever published, and the *Pictorial Supplement to the Denver South Park & Pacific*, by Richard Kindig, Ed. Haley and Mac C. Poor. Both books are of great stature! Published by the Rocky Mountain Railroad Club.

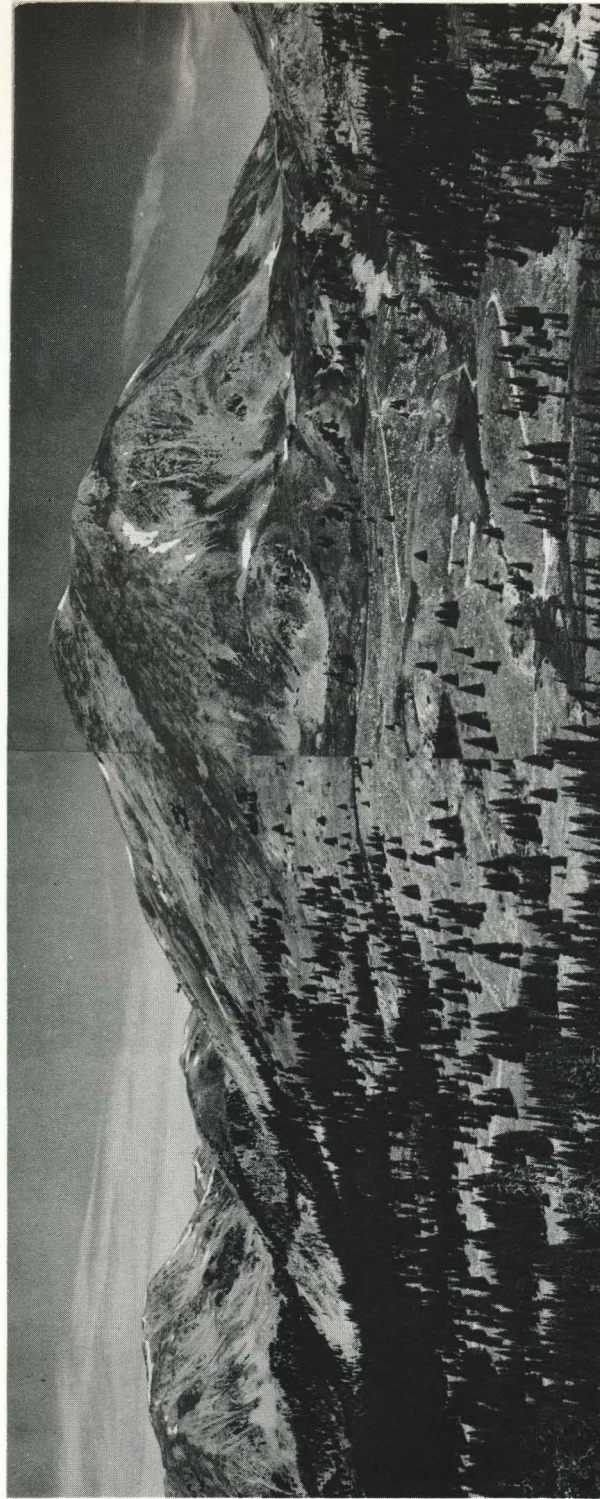
Gratitude beyond measure is due three people. The late Charles W. Hurd, historian and friend, whose confidence and encouragement got the book started. Don Bloch, eminent

historian and distinguished book dealer, who literally forced the completion of this manuscript, by his insistence, scolding, enthusiasm, and other forceful devices. Miss Mattie Taylor, retired high school instructor, who devoted countless hours editing, throwing out dangling participles, finally making an ill-assorted collection of paragraphs into a more cohesive unit.

And finally, my great esteem for Charlie and Shirley Webb, explorers, mountaineers and adventurers. This "young man with a camera" has the touch of greatness when he trips the shutter of his camera.

**PART II:**  
**PICTORIAL SUPPLEMENT**

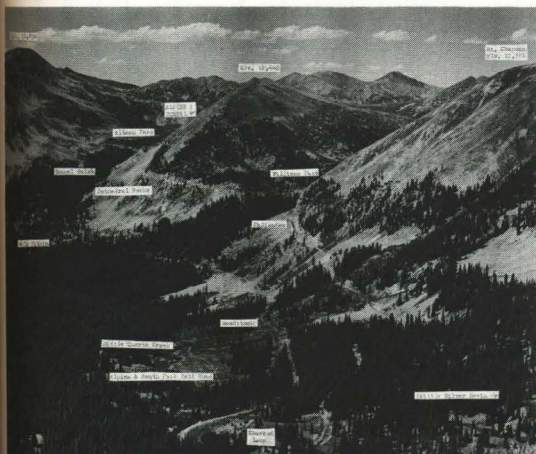




A scene of transcendent beauty unfolds in this panoramic view from Tomichi Pass. This is the sight that greeted Eugene Teats and his companions when they hiked from White Pine to Woodstock. In the foreground is Brittle Silver Basin while at right a Jeep road curves and climbs to reach the saddle of 12,125-ft. Hancock Pass. Mt. Chapman dominates the center of the photo with the Palisades on its left shoulder at about timberline. The two mountains, unnamed, at left of Chapman straddle Altman Pass and the Alpine Tunnel. Williams Pass rounds the left shoulder of Mt. Chapman.

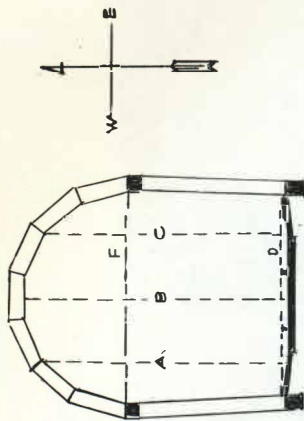
Woodstock was located among the trees below the Palisades. Portions of the South Park's grade are visible, clinging to the slopes of the mountain next to Mt. Chapman. Sherrod Loop is just out of camera range at bottom left. *Photo by Author*





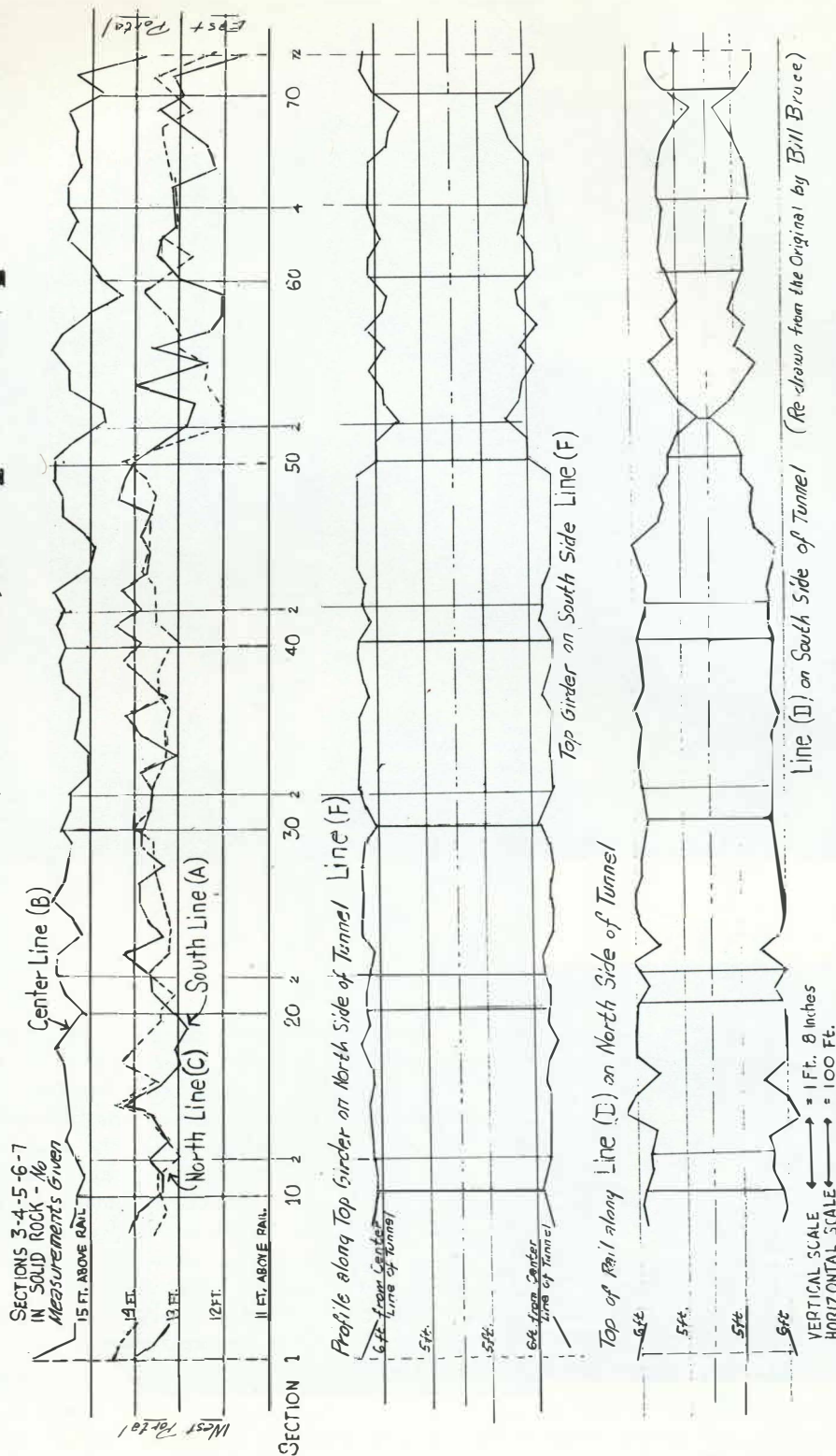
More than six miles of the South Park's grade is seen in this view, photographed from the upper slopes of Paywell Mountain. At upper left the grade is seen emerging from Alpine Valley. The tunnel is almost directly behind the unnamed mountain at center. Rounding the shoulder of this mountain the grade dips into Williams Pass, next to creep past the Palisades and into the Sherrod Loop, at bottom center. Site of Woodstock was among the trees just this side of the rock-slide area on the lower level of the grade. The present Woodstock tank is among the trees at left center. Tunnel Gulch drops off steeply from Alpine's valley. Mountains in the distance are on the far side of the other Tunnel Gulch. Alpine Tunnel penetrates the ridge at left of the center mountain. *Charles Webb photo, inspired by Rial R. Lake of Gunnison.*



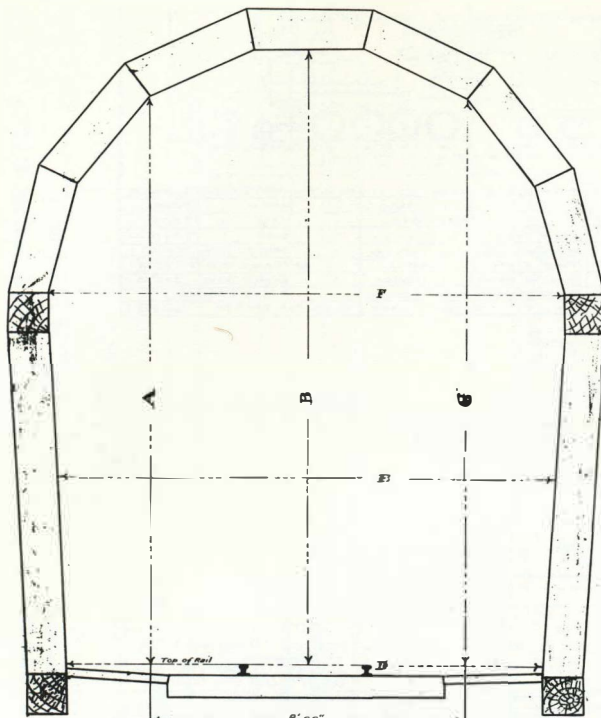


## PROFILES OF ROOF AND SIDES OF ALPINE TUNNEL

From Measurements Made Under Direction of Bridge & Bldg. Dept. by W.T. Powell, Inspector, Chief Engineer's Office, C&S Railway, Denver.. March 23, 1900..



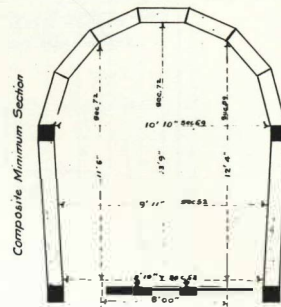
This extraordinary series of profiles, from the archives of the Colorado and Southern Railway Co., dramatically shows the wide variance in heights and widths in the different sections of Alpine Tunnel. During construction, frequently, more rock and dirt would be loosened and would fall than had been planned. Timbering would be cut and fitted in those sections to accommodate the actual opening. In sections 10 to 20, along one side, the rock was so firm that, instead of using the long supporting timbers, a rock shelf was used to support the arch segments.



ALPINE TUNNEL MEASUREMENTS  
Made in March, 1900 by W.T. Powell, Inspector B & B Dept

SECT.	MEAS.	FT.	IN.	SECT.	MEAS.	FT.	IN.	SECT.	MEAS.	FT.	IN.	SECT.	MEAS.	FT.	IN.	SECT.	MEAS.	FT.	IN.
1	ABCD E F	14 16 12 13 15 12	0 0 0 0 0 0	9	ABCD E F	10 12 13 14 15 12	0 0 0 0 0 0	17	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	25	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	33	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0
2	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	10	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	18	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	26	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	34	ABCD E F	15 16 17 18 19 12	0 0 0 0 0 0
3	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	11	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	19	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	27	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	35	ABCD E F	15 16 17 18 19 12	0 0 0 0 0 0
4	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	12	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	20	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	28	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	36	ABCD E F	15 16 17 18 19 12	0 0 0 0 0 0
5	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	13	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	21	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	29	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	37	ABCD E F	15 16 17 18 19 12	0 0 0 0 0 0
6	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	14	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	22	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	30	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	38	ABCD E F	15 16 17 18 19 12	0 0 0 0 0 0
7	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	15	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	23	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	31	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	39	ABCD E F	15 16 17 18 19 12	0 0 0 0 0 0
8	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	16	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0	24	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	32	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	40	ABCD E F	15 16 17 18 19 12	0 0 0 0 0 0

Notes: 1. Sacs 4-8-6-7 are not finished  
2. Measurements commence at base end of Tunnel, and run seaward by Sections of 25 ft each  
3. All Sections are 25 ft long, except Sec. 72 which is 10 ft  
4. Total length of Tunnel as per these measurements is 1780 ft



SECT.	MEAS.	FT.	IN.	SECT.	MEAS.	FT.	IN.
41	ABCD E F	14 15 16 17 18 12	0 0 0 0 0 0	57	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
42	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	58	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
43	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	59	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
44	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	60	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
45	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	61	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
46	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	62	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
47	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	63	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
48	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	64	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
49	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	65	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
50	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	66	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
51	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	67	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
52	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	68	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
53	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	69	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
54	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	70	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
55	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	71	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0
56	ABCD E F	13 14 15 16 17 12	0 0 0 0 0 0	72	ABCD E F	12 13 14 15 16 12	0 0 0 0 0 0

Chief Engineer's Office, B & B Dept  
Denver, Colo., March 21, 1900  
CXP





# Reproduction of Time Table

Denver, Leadville and Gunnison Railroad, 1898, reproduced next twenty pages

## MORRISON DISTRICT—Sheridan Junction and Morrison.

WESTWARD				EASTWARD			
Length of Bid- ding in feet, and Location of B.C. Locals, Water, Fuel, Turn- ing, etc.	T. W.	SECOND CLASS		SECOND CLASS		Station Numbers	16 Pass. & Frt. Arrive Daily Etc. Sunday
		IN EFFECT		IN EFFECT			
		Time Table No. 12, September 11th, 1898.	Distances from Denver	Time Table No. 12, September 11th, 1898.	STATIONS		
2,135	O. Y. W.		7.6	D. SHERIDAN JUNCT. S. J.		507	-- 10.45am
815			8.7	Fort Logan		610	8.10.38
			10.6	Balcon		611	f.
442			12.7	Lee Siding		612	f. 10.20
549			14.4	Mt. Carbon		613	f. 10.12
6,238	T. W.		17.2	MORRISON		614	-- 10.00am
							Leave Daily Etc. Sunday
							(0.45)
							(9.6)
							(0.45)

## KEYSTONE DISTRICT.

WESTWARD				EASTWARD					
Length of Sidings in feet, and Locals, Water, Fuel, Turn- ing, etc.			FIRST CLASS		Distances from Dickey	Time Table No. 12, IN EFFECT September 11th, 1898.	Stations Numbers	FIRST CLASS	
			19 Passenger	17 Passenger				18 Passenger	20 Passenger
			Leave Daily	Leave Daily				Arrive Daily	Arrive Daily
4,838 y. c. w.			3.06 pm	10.53 am		D. DICKEY <sub>27</sub>	563	11.12am	3.26 pm
2,139			3.16 pm	11.02am	2.7	D. Dillon <sub>06</sub>	616	11.02am	3.16pm
233					3.2	Nichols Spur <sub>31</sub>	617		
1,900 y.					6.9	KEYSTONE	618		
			Arrive Daily	Arrive Daily				Leave Daily	Leave Daily
			(0.10)	(0.10)		(0.9)		(0.10)	(0.10)

West-bound trains will have absolute right to the track over East-bound trains of the same or inferior class. See Rule 84.  
 Telegraph signal lamps are not required to be kept burning after regular trains for the day have passed.

Orders for movement of trains will be given over initials of Train Dispatcher. All other business will be transacted in name of Division Superintendent.

R. L. HEARON, Train Master, Como, Colo.  
 J. Q. MATTHEWS, Chief Dispatcher.  
 W. G. ELLIOTT, Dispatcher.



Trains Westward.										CANON DISTRICT.										Denver to												
Length of Sid- ings in feet.	Loca- tion.	W. Fuel.	Turn of Scale.	Sta- tions.	Way Frt.	Pass. & Frt.	SECOND CLASS			1ST CLASS			Distance from Denver	Time Table No. 12. IN EFFECT September 11th, 1898.	STATIONS	N.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.		
							Leave Daily Exc. Sunday	Leave Daily Exc. Sunday	Leave Daily Exc. Sunday	Leave Daily Exc. Sunday	Leave Daily Exc. Sunday	Leave Daily Exc. Sunday																				
264,168	O. R. C. W.						7:26am	6:30am	7:00	8:15am	8:22	1.4			Denver	Denver																
1,984							7:45	6:45	7:12	8:28	8:33	2.0			West Denver	West Denver																
1,584							7:53			8:33	8:36	3.0			A. T. & S. F. Ry. } Crossing	A. T. & S. F. Ry. } Crossing																
2,494							7:57			8:36	8:40	5.1			U. P. D. & O. Ry. } Crossing	U. P. D. & O. Ry. } Crossing																
2,135	O. Y. W.						8:05am	7:10	7:30	8:40	8:49	7.5			Valverde	Valverde																
987							7:30	7:41	7:41	8:49	8:52	8.2			Overland	Overland																
1,302							7:52	7:56	7:56	9:01	9:04	11.2			D. & R. O. R. Crossing	D. & R. O. R. Crossing																
3,062	Y. W.						8:16	8:07	8:10	9:10	9:13	16.7			Wynette	Wynette																
1,059							8:40	8:38	8:38	9:23	9:26	20.4			Whetland	Whetland																
551							8:56	8:56	8:56	9:31	9:34	24.5			Platte Canon	Platte Canon																
5,111							9:20	8:45	8:45	9:39	9:42	28.8			Mill Gulch	Mill Gulch																
1,549	W						9:47	9:55	9:55	10:47	10:50	29.4			Deerbury	Deerbury																
900							10:10	9:08	9:08	10:57	11:00	31.7			South Platte	South Platte																
769							10:20	9:16	9:16	10:02	10:05	34.5			Dome Rock	Dome Rock																
2,400	W. I. M.						10:45	9:31	9:31	10:13	10:16	36.0			Dawson	Dawson																
3,652	Y. O.						11:00	9:46	9:46	10:23	10:26	39.0			Park Siding	Park Siding																
541							11:20	10:06	10:06	10:43	10:46	39.6			Ferrisdale	Ferrisdale																
1,077	W						11:42	10:28	10:28	11:05	11:08	42.4			Bellevue	Bellevue																
687							11:57am	10:16	10:16	10:43	10:46	43.1			Brookside	Brookside																
1,178							12:26pm	10:36	10:36	11:07	11:10	46.0			Slights	Slights																
728							12:45	10:50	10:50	11:07	11:10	47.7			Menlo	Menlo																
765							1:15	11:08	11:08	11:22	11:25	51.5			Chagaville	Chagaville																
1,171	W						1:38	11:22	11:22	11:32	11:35	54.4			Camille	Camille																
896							2:00	11:29	11:29	11:37	11:40	56.1			Crant	Crant																
450												66.1			Webster	Webster																
2,618	Y. W						2:35	11:42	11:42	11:46	11:49	69.4			Hogler	Hogler																
2,293	W						2:57	11:59pm	11:59pm	11:58am	11:58am	74.1			Kegsha	Kegsha																
590							3:30	12:30am	12:30am	12:18pm	12:18pm	76.0			Jenison	Jenison																
3,182	Y.						3:45	12:45	12:45	12:36	12:39	81.1			Michigan	Michigan																
3,069	Y. W						4:15	1:10	1:10	12:41	12:44	84.1			Coal Branch Junction	Coal Branch Junction																
540							4:33	1:23	1:23	12:49	12:52	87.4			COMO	COMO																
450	Y.						4:52	1:40	1:40	12:58	1:01	88.2																				
11,563	O. Y. T. C. W.						4:56pm	1:46am	1:46am	1:00pm	1:03pm	88.2																				
West-bound trains will have absolute right to the track over East-bound trains of the same or inferior class. See Rule 84.										(85.2)										(85.2)												

Como.

Time Table No. 12.  
IN EFFECT  
September 11th, 1898.

**STATIONS**

N.....DENVER.....Gn  
West Denver.....  
A.T. & S.F. Ry. } Crossing  
U.P. D. & C. Ry.  
Valverde.....  
Denver Mills.....  
Overland.....  
D.....Sheridan Junction.....Si  
D. & R. C. R. Crossing.....  
Wynatta.....  
Wheatland.....  
Platte Canon.....  
Mill Gulch.....  
Deansbury.....  
South Platte.....Sp  
Dome Rock.....  
Davens.....  
Park Siding.....  
Ferdale.....  
D.....Buffalo.....Fo  
D.....Pine Grove.....Ni  
Cryslar Lake.....  
Cliff.....  
Crocons.....  
Estabrook.....  
Bays.....  
Brookside.....  
Slaghts.....  
Meadows.....  
Chaseville.....  
Castells.....  
D.....Grant.....Us  
Webster.....  
Hoosier.....  
Kenisha.....  
Jefferson.....Jn  
Michigan.....  
Coal Branch Junction.....  
D.....COMO.....De

**CANON DISTRICT.**

**SECOND CLASS**

**1st CLASS**

Station	1st CLASS	2	12	14	16	Trains Eastward.
Denver and Lead. Pass.	Arrive Daily	Pass. & Frt.	Way Frt.	Pass. & Frt.		
Arrive Daily	Exc. Sunday	Arrive Daily	Exc. Sunday	Arrive Daily	Exc. Sunday	
500	6.10pm	11.10pm	4.30pm	11.25am		
501	6.03	11.00	4.00	11.15		
502	5.58	10.50	4.18	11.03		
503	5.53		4.11	10.56		
504	5.50		4.07	10.52		
505	5.45	10.30	4.00	10.45am		
506	5.35	10.15	3.35			
507	5.23	9.56	3.15			
508	5.13	9.43	2.52			
509	5.00	9.26	2.25			
510	4.51	9.15	2.10			
511	4.42	9.04	1.52			
512	4.32	8.55	1.25			
513	4.21	8.38	1.08			
514	4.16	8.31	12.57			
515	4.06	8.15	12.40			
516	3.56	8.00	12.25			
517	3.43	7.38	11.42am			
518	3.37	7.29	11.20			
519	3.25	7.10	10.57			
520	3.15	6.57	10.30			
521	3.00	6.37	10.10			
522	2.50	6.25	9.54			
523	2.45	6.18	9.45			
524	2.35	6.05	9.30			
525	2.24	5.48	9.10			
526	2.08	5.22	8.42			
527	2.02	5.10	8.30			
528	1.44	4.15	7.40			
529	1.36	3.55	7.20			
530	1.27	3.40	7.05			
531	1.25pm	3.35pm	7.00am			
532	Leave Daily	Leave Daily	Leave Daily			
533	Exc. Sunday	Exc. Sunday	Exc. Sunday			

West-bound trains will have absolute right to the track over East-bound trains of the same or inferior class. See Rule 84.



# HIGH LINE DISTRICT—Como and Leadville.

WESTWARD				EASTWARD				
Length of Sidings in feet and Loca- tion of Cables, Water, Turners, Stations and Wyes.	SECOND CLASS		Distances from Denver	STATIONS		STATION NUMBERS		
	11	1ST CLASS		IN EFFECT September 11th, 1898.	12	SECOND CLASS		
		Pass. & Frt. Lead. Pass.				Denver and Lead. Pass. & Frt.	Denver and Lead. Pass. & Frt.	Pass. & Frt. Lead. Pass.
	Leave Daily Exo. Monday	Leave Daily Exo. Monday				Arrive Daily Exo. Monday	Arrive Daily Exo. Monday	
11,863 T.C.W.	2:05am	1:20pm	88.2	N.....COMO.....De	3:05pm	547		
1,784			88.7	.....Coals Spur.....		548		
808 W	f...2:40...	f...1:44...	93.8	.....Half Way.....	2:37	549		
1,586 T. C.W.	s...3:10...	s...2:10...	98.7	D.....Boras.....Bo	s...2:10...	551		
480			99.9	.....Farnham Spur.....	1:38	552		
788			100.8	.....Dwyer Spur.....	1:35	553		
360 C.W.			102.1	.....Bakers Tank.....		554		
814			103.7	.....Argentine.....	12:55	555		
322			106.8	.....Washington Spur.....		556		
565			106.4	.....Mayo Spur.....	12:30	557		
4,489 Y.C.W.	s...4:00...	s...2:48...	110.0	D.....Breckenridge.....Hd	12:03pm	561		
1,072	f...4:14...	f...2:57...	118.8	.....Bradocks.....	f...11:40am	562		
4,333 Y.C.W.	s...4:25...	s...3:08...	116.4	D.....Dickey.....Jd	s...11:32...	563		
1,141	f...4:42...	f...3:38...	119.9	.....Frisco.....	f...10:43...	565		
728	f...4:53...	f...3:45...	122.0	.....Curtin.....	f...10:30...	566		
950 W	f...5:13...	f...3:59...	126.1	.....Wheeler.....	f...10:10...	567		
1,214	f...5:45...	s...4:24...	132.9	D.....Kokomo.....Ko	f...9:30...	568		
1,468	f...5:55...	s...4:32...	134.6	.....Robinson.....	f...9:27...	569		
1,854 T.C.	s...6:10...	s...4:45...	137.4	D.....Olinax.....Ak	s...9:06...	570		
	6:16	4:50	138.9	.....Alcanta.....	f...8:50...			
582			144.8	.....Birds Eye.....	f...8:30...	573		
			150.4	.....D. & B. G. R. Crossing.....				
14,628 O.T. C.W.	7:00am	5:30pm	161.1	D.....LEADVILLE.....Vi	7:45am	574		
	Arrive Daily Exo. Monday	Arrive Daily Exo. Monday						



Kokomo tank, 0.7 mile east of Kokomo.  
Three-mile tank located on mile 147.5.  
French Gulch tank located on mile 142.

West-bound trains will have absolute right to the track over East-bound trains of the same or inferior class. See Rule 84.

## EASTWARD

WESTWARD				EASTWARD			
8500ND CLASS				8500ND CLASS			
IN EFFECT				IN EFFECT			
September 11th, 1898.				September 11th, 1898.			
STATIONS				STATIONS			
N.	COMO	Do	547	22	24	28	
Red Hill	1.15pm	1.35pm	575	Pass. & Frt. Pass. & Frt. Pass. & Frt.	Arrive Daily	Arrive Mon., Wed. & Fri.	
Hay Ranch	2.37	2.12	576	12:40pm	7:30pm	7:30pm	
Arthur	2.52	2.27	577	12:40pm	7:30pm	7:30pm	
Garos	3.08	2.30	578	12:40pm	7:30pm	7:30pm	
Plate River	3.20	2.40pm	579	12:40pm	7:30pm	7:30pm	
Divide	3.35	2.55	580	12:40pm	7:30pm	7:30pm	
Divide	3.40	3.00	581	12:40pm	7:30pm	7:30pm	
Divide	3.47	3.07	582	12:40pm	7:30pm	7:30pm	
Divide	3.55	3.15	583	12:40pm	7:30pm	7:30pm	
Divide	4.05	3.25	584	12:40pm	7:30pm	7:30pm	
Divide	4.15	3.35	585	12:40pm	7:30pm	7:30pm	
Divide	4.25	3.45	586	12:40pm	7:30pm	7:30pm	
Divide	4.35	3.55	587	12:40pm	7:30pm	7:30pm	
Divide	4.45	4.05	588	12:40pm	7:30pm	7:30pm	
Divide	4.55	4.15	589	12:40pm	7:30pm	7:30pm	
Divide	5.05	4.25	590	12:40pm	7:30pm	7:30pm	
Divide	5.15	4.35	591	12:40pm	7:30pm	7:30pm	
Divide	5.25	4.45	592	12:40pm	7:30pm	7:30pm	
Divide	5.35	4.55	593	12:40pm	7:30pm	7:30pm	
Divide	5.45	5.05	594	12:40pm	7:30pm	7:30pm	
Divide	5.55	5.15	595	12:40pm	7:30pm	7:30pm	
Divide	6.05	5.25	596	12:40pm	7:30pm	7:30pm	
Divide	6.15	5.35	597	12:40pm	7:30pm	7:30pm	
Divide	6.25	5.45	598	12:40pm	7:30pm	7:30pm	
Divide	6.35	5.55	599	12:40pm	7:30pm	7:30pm	
Divide	6.45	6.05	600	12:40pm	7:30pm	7:30pm	
Divide	6.55	6.15	601	12:40pm	7:30pm	7:30pm	
Divide	7.05	6.25	602	12:40pm	7:30pm	7:30pm	
Divide	7.15	6.35	603	12:40pm	7:30pm	7:30pm	
Divide	7.25	6.45	604	12:40pm	7:30pm	7:30pm	
Divide	7.35	6.55	605	12:40pm	7:30pm	7:30pm	
Divide	7.45	7.05	606	12:40pm	7:30pm	7:30pm	
Divide	7.55	7.15	607	12:40pm	7:30pm	7:30pm	
Divide	8.05	7.25	608	12:40pm	7:30pm	7:30pm	
Divide	8.15	7.35	609	12:40pm	7:30pm	7:30pm	
Divide	8.25	7.45	610	12:40pm	7:30pm	7:30pm	
Divide	8.35	7.55	611	12:40pm	7:30pm	7:30pm	
Divide	8.45	8.05	612	12:40pm	7:30pm	7:30pm	
Divide	8.55	8.15	613	12:40pm	7:30pm	7:30pm	
Divide	9.05	8.25	614	12:40pm	7:30pm	7:30pm	
Divide	9.15	8.35	615	12:40pm	7:30pm	7:30pm	
Divide	9.25	8.45	616	12:40pm	7:30pm	7:30pm	
Divide	9.35	8.55	617	12:40pm	7:30pm	7:30pm	
Divide	9.45	9.05	618	12:40pm	7:30pm	7:30pm	
Divide	9.55	9.15	619	12:40pm	7:30pm	7:30pm	
Divide	10.05	9.25	620	12:40pm	7:30pm	7:30pm	
Divide	10.15	9.35	621	12:40pm	7:30pm	7:30pm	
Divide	10.25	9.45	622	12:40pm	7:30pm	7:30pm	
Divide	10.35	9.55	623	12:40pm	7:30pm	7:30pm	
Divide	10.45	10.05	624	12:40pm	7:30pm	7:30pm	
Divide	10.55	10.15	625	12:40pm	7:30pm	7:30pm	
Divide	11.05	10.25	626	12:40pm	7:30pm	7:30pm	
Divide	11.15	10.35	627	12:40pm	7:30pm	7:30pm	
Divide	11.25	10.45	628	12:40pm	7:30pm	7:30pm	
Divide	11.35	10.55	629	12:40pm	7:30pm	7:30pm	
Divide	11.45	11.05	630	12:40pm	7:30pm	7:30pm	
Divide	11.55	11.15	631	12:40pm	7:30pm	7:30pm	
Divide	12.05	11.25	632	12:40pm	7:30pm	7:30pm	
Divide	12.15	11.35	633	12:40pm	7:30pm	7:30pm	
Divide	12.25	11.45	634	12:40pm	7:30pm	7:30pm	
Divide	12.35	11.55	635	12:40pm	7:30pm	7:30pm	
Divide	12.45	12.05	636	12:40pm	7:30pm	7:30pm	
Divide	12.55	12.15	637	12:40pm	7:30pm	7:30pm	
Divide	13.05	12.25	638	12:40pm	7:30pm	7:30pm	
Divide	13.15	12.35	639	12:40pm	7:30pm	7:30pm	
Divide	13.25	12.45	640	12:40pm	7:30pm	7:30pm	
Divide	13.35	12.55	641	12:40pm	7:30pm	7:30pm	
Divide	13.45	13.05	642	12:40pm	7:30pm	7:30pm	
Divide	13.55	13.15	643	12:40pm	7:30pm	7:30pm	
Divide	14.05	13.25	644	12:40pm	7:30pm	7:30pm	
Divide	14.15	13.35	645	12:40pm	7:30pm	7:30pm	
Divide	14.25	13.45	646	12:40pm	7:30pm	7:30pm	
Divide	14.35	13.55	647	12:40pm	7:30pm	7:30pm	
Divide	14.45	14.05	648	12:40pm	7:30pm	7:30pm	
Divide	14.55	14.15	649	12:40pm	7:30pm	7:30pm	
Divide	15.05	14.25	650	12:40pm	7:30pm	7:30pm	
Divide	15.15	14.35	651	12:40pm	7:30pm	7:30pm	
Divide	15.25	14.45	652	12:40pm	7:30pm	7:30pm	
Divide	15.35	14.55	653	12:40pm	7:30pm	7:30pm	
Divide	15.45	15.05	654	12:40pm	7:30pm	7:30pm	
Divide	15.55	15.15	655	12:40pm	7:30pm	7:30pm	
Divide	16.05	15.25	656	12:40pm	7:30pm	7:30pm	
Divide	16.15	15.35	657	12:40pm	7:30pm	7:30pm	
Divide	16.25	15.45	658	12:40pm	7:30pm	7:30pm	
Divide	16.35	15.55	659	12:40pm	7:30pm	7:30pm	
Divide	16.45	16.05	660	12:40pm	7:30pm	7:30pm	
Divide	16.55	16.15	661	12:40pm	7:30pm	7:30pm	
Divide	17.05	16.25	662	12:40pm	7:30pm	7:30pm	
Divide	17.15	16.35	663	12:40pm	7:30pm	7:30pm	
Divide	17.25	16.45	664	12:40pm	7:30pm	7:30pm	
Divide	17.35	16.55	665	12:40pm	7:30pm	7:30pm	
Divide	17.45	17.05	666	12:40pm	7:30pm	7:30pm	
Divide	17.55	17.15	667	12:40pm	7:30pm	7:30pm	
Divide	18.05	17.25	668	12:40pm	7:30pm	7:30pm	
Divide	18.15	17.35	669	12:40pm	7:30pm	7:30pm	
Divide	18.25	17.45	670	12:40pm	7:30pm	7:30pm	
Divide	18.35	17.55	671	12:40pm	7:30pm	7:30pm	
Divide	18.45	18.05	672	12:40pm	7:30pm	7:30pm	
Divide	18.55	18.15	673	12:40pm	7:30pm	7:30pm	
Divide	19.05	18.25	674	12:40pm	7:30pm	7:30pm	
Divide	19.15	18.35	675	12:40pm	7:30pm	7:30pm	
Divide	19.25	18.45	676	12:40pm	7:30pm	7:30pm	
Divide	19.35	18.55	677	12:40pm	7:30pm	7:30pm	
Divide	19.45	19.05	678	12:40pm	7:30pm	7:30pm	
Divide	19.55	19.15	679	12:40pm	7:30pm	7:30pm	
Divide	20.05	19.25	680	12:40pm	7:30pm	7:30pm	
Divide	20.15	19.35	681	12:40pm	7:30pm	7:30pm	
Divide	20.25	19.45	682	12:40pm	7:30pm	7:30pm	
Divide	20.35	19.55	683	12:40pm	7:30pm	7:30pm	
Divide	20.45	20.05	684	12:40pm	7:30pm	7:30pm	
Divide	20.55	20.15	685	12:40pm	7:30pm	7:30pm	
Divide	21.05	20.25	686	12:40pm	7:30pm	7:30pm	
Divide	21.15	20.35	687	12:40pm	7:30pm	7:30pm	
Divide	21.25	20.45	688	12:40pm	7:30pm	7:30pm	
Divide	21.35	20.55	689	12:40pm	7:30pm	7:30pm	
Divide	21.45	21.05	690	12:40pm	7:30pm	7:30pm	
Divide	21.55	21.15	691	12:40pm	7:30pm	7:30pm	
Divide	22.05	21.25	692	12:40pm	7:30pm	7:30pm	
Divide	22.15	21.35	693	12:40pm	7:30pm	7:30pm	
Divide	22.25	21.45	694	12:40pm	7:30pm	7:30pm	
Divide	22.35	21.55	695	12:40pm	7:30pm	7:30pm	
Divide	22.45	22.05	696	12:40pm	7:30pm	7:30pm	
Divide	22.55	22.15	697	12:40pm	7:30pm	7:30pm	
Divide	23.05	22.25	698	12:40pm	7:30pm	7:30pm	
Divide	23.15	22.35	699	12:40pm	7:30pm	7:30pm	
Divide	23.25	22.45	700	12:40pm	7:30pm	7:30pm	
Divide	23.35	22.55	701	12:40pm	7:30pm	7:30pm	
Divide	23.45	23.05	702	12:40pm	7:30pm	7:30pm	
Divide	23.55	23.15	703	12:40pm	7:30pm	7:30pm	
Divide	24.05	23.25	704	12:40pm	7:30pm	7:30pm	
Divide	24.15	23.35	705	12:40pm	7:30pm	7:30pm	
Divide	24.25	23.45	706	12:40pm	7:30pm	7:30pm	
Divide	24.35	23.55	707	12:40pm	7:30pm	7:30pm	
Divide	24.45	24.05	708	12:40pm	7:30pm	7:30pm	
Divide	24.55	24.15	709	12:40pm	7:30pm	7:30pm	
Divide	25.05	24.25	710	12:40pm	7:30pm	7:30pm	
Divide	25.15	24.35	711	12:40pm	7:30pm	7:30pm	
Divide	25.25	24.45	712	12:40pm	7:30pm	7:30pm	
Divide	25.35	24.55	713	12:40pm	7:30pm	7:30pm	
Divide	25.45	25.05	714	12:40pm	7:30pm	7:30pm	
Divide	25.55	25.15	715	12:40pm	7:30pm	7:30pm	
Divide	26.05	25.25	716	12:40pm	7:30pm	7:30pm	
Divide	26.15	25.35	717	12:40pm	7:30pm	7:30pm	
Divide	26.25	25.45	718	12:40pm	7:30pm	7:30pm	
Divide	26.35	25.55	719	12:40pm	7:30pm	7:30pm	
Divide	26.45	26.05	720	12:40pm	7:30pm	7:30pm	
Divide	26.55	26.15	721	12:40pm	7:30pm	7:30pm	
Divide	27.05	26.25	722	12:40pm	7:30pm	7:30pm	
Divide	27.15	26.35	723	12:40pm	7:30pm	7:30pm	
Divide	27.25	26.45	724	12:40pm	7:30pm	7:30pm	
Divide	27.35	26.55	725	12:40pm	7:30pm	7:30pm	
Divide	27.45	27.05	726	12:40pm	7:30pm	7:30pm	
Divide	27.55	27.15	727	12:40pm	7:30pm	7:30pm	
Divide	28.05	27.25	728	12:40pm	7:30pm	7:30pm	
Divide	28.15	27.35	729	12:40pm	7:30pm	7:30pm	
Divide	28.25	27.45	730	12:40pm	7:30pm	7:30pm	
Divide	28.35	27.55	731	12:40pm	7:30pm	7:30pm	
Divide	28.45	28.05	732	12:40pm	7:30pm	7:30pm	
Divide	28.55	28.15	733	12:40pm	7:30pm	7:30pm	
Divide	29.05	28.25	734	12:40pm	7:30pm	7:30pm	
Divide	29.15	28.35	735	12:40pm	7:30pm	7:30pm	
Divide	29.25	28.45	736	12:40pm	7:30pm	7:30pm	
Divide	29.35	28.55	737	12:40pm	7:30pm	7:30pm	
Divide	29.45	29.05	738	12:40pm	7:30pm	7:30pm	
Divide	29.55	29.15	739	12:40pm	7:30pm	7:30pm	
Divide	30.05	29.25	740	12:			

**West-bound trains will have absolute right to the track over East-bound trains of the same or inferior class. See Rule 84.**

**Water tank one mile west of Divide.**  
**Water tank 0.9 mile west of Valley Spur.**  
**Water tank 0.8 mile east of Platte River.**

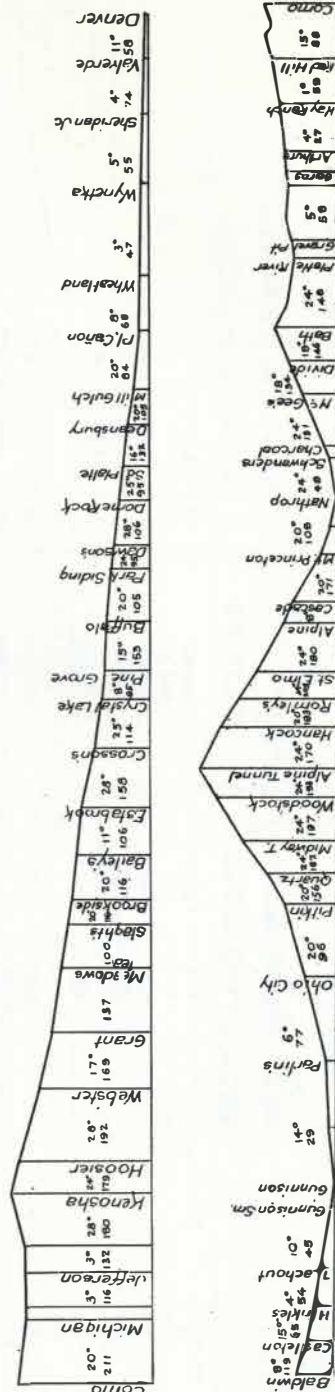
**S. L. RAINEY, Superintendent, Como, Colo.**



## EASTWARD

WESTWARD			EASTWARD		
Length of Sid- ings in feet, of Location and Scales, Water, Fuel, Turning Sta- tions & Wyes.	SECOND CLASS		Distances from Gares	SECOND CLASS	
	21 Pass. & Fret. Leave Daily	22 Pass. & Fret. Arrive Daily		Station Numbers	22 Pass. & Fret. Arrive Daily
3,055 Y. W		2,40pm	D-----Gares-----Gs 9.0 Hill Top Junction	579	11:36am
2,088		3.30	D-----Fairplay-----Fp 1.0 5.5	620	10.47
2,894 Y. W		4.00pm	D-----ALMA-----B 15.5	621	10.20am
		Arrive Daily			Leave Daily

**BUENA VISTA DISTRICT:**

[illegible]

**West-bound trains will have absolute right to the track over East-bound trains of the same or inferior class. See Rule 84.**

# THE DENVER, LEADVILLE AND GUNNISON RAILWAY COMPANY

## GENERAL NOTICE

It is of the utmost importance that proper rules for the government of the employees of a railroad company should be literally and absolutely enforced, in order to make such rules efficient. If they cannot or ought not to be enforced, they ought not to exist. Officers or employees whose duty it may be to make or enforce rules, however temporary or unimportant they may seem, should keep this clearly in mind. If, in the judgment of anyone whose duty it is to enforce a rule, such rule cannot or ought not to be enforced, he should at once bring it to the attention of those in authority.

All employees should be required to be polite and considerate in their intercourse with the public. The reputation and prosperity of a company depend greatly upon the promptness with which its business is conducted and the manner in which its patrons are treated by its employees.

### GENERAL RULES.

**1.** The Rules herein set forth apply to and govern all roads operated by the Denver, Leadville and Gunnison Railway Company.

They shall take effect February 1st, 1890, and supersede all prior rules and instructions, in whatever form issued, which are inconsistent therewith.

**2.** In addition to these rules, the Time-tables will contain special instructions, as the same may be found necessary. Special instructions, whether in conflict with these rules or not, which may be given by proper authority, whether upon the Time-tables or otherwise, shall be fully observed while in force.

**3.** The head of each department must be conversant with the rules, supply copies of them to his subordinates, see that they are understood, enforce obedience to them, and report to the proper officer all violations and the action taken thereon.

**4.** Every employee of this company whose duties are in any way prescribed by these rules must always have a copy of them at hand when on duty, and must be conversant with every rule. He must render all the assistance in his power in carrying them out, and immediately report any infringement of them to the head of his department.

**5.** The fact that any person enters or remains in the service of the company will be considered as an assurance of willingness to obey its rules. No one will be excused for the violation of any of them, even though not included in those applicable to his department.

**6.** If in doubt as to the meaning of any rule or special instructions, application must be made at once, to the proper authority, for an explanation. Ignorance is no excuse for neglect of duty.

**7.** All employees will be regarded as in the line of promotion, advancement depending upon the faithful discharge of duty, and capacity for increased responsibility.

**8.** If an employee should be disabled by sickness or other cause, the right to claim compensation will not be recognized. An allowance, if made, will be a gratuity justified by the circumstances of the case, and the employee's previous good conduct.

**9.** Every employee, while on duty connected with the trains on any division of the road, is under the authority, and must conform to the orders, of the superintendent of that division.

**10.** Employees must wear the prescribed badges or uniforms while on duty.

**11.** Mail-agents, express messengers, parlor and sleeping car conductors and porters, news agents and persons in charge of individual cars are subject, while on duty, to the rules governing employees of the company.

**Standard Watches.**

**16.** Each conductor and engineman must have a reliable watch, which has been examined and certified to on the form attached hereto, by a responsible watchmaker, and must file such certificate with the proper designated officer before he is allowed to take charge of a train or engine. Watches must be examined and certificates renewed every six months.

(Form of Certificate.)

#### WATCHMAKER'S CERTIFICATE.

This is to certify that on ..... 18.... the watch of ..... employed as ..... on the Union Pacific Railroad, has been examined and found to be a reliable and accurate time-piece, and in such repair as will, in my judgment, with proper usage, enable it to run within a variation not to exceed thirty seconds per week.

Name of Maker .....  
Brand .....  
Number of Movement .....  
Gold or silver .....  
Open or hunting case .....  
Stem or key winding .....  
Signed, .....

Watchmaker.

Address .....

**Regulating watches.**  
**17.** Each conductor and engineman must regulate his watch by the designated Standard Clock before starting on each trip, and register in the Train Register book his name and the time at which he regulated his watch.

**Compensating watches.**  
**18.** Conductors and enginemen whose duties prevent them from having access to a Standard Clock must compare daily with, and regulate their watches by, those of conductors and enginemen who have Standard Time, and have registered their names as above provided.

#### STANDARD TIME.

**12.** Observatory Standard Time is the only recognized standard, and will be transmitted from Washington Observatory at St. Louis, Mo., to the designated offices.

**13.** The Standard Time will be telegraphed to all points from the St. Louis Observatory at 10:00 a. m., Central Time, daily. The time used shall be as follows: On all of the lines east of North Platte, Neb., and Wallace, Kas., time of the 90th meridian, known as "Central Time." On all lines west of these points and east of Huntington, Or., time of the 105th meridian, known as "Mountain Time," which is one hour slower than Central Time and on all lines west of Huntington, time of the 120th meridian, known as "Pacific Time," which is one hour slower than Mountain Time.

**14.** The Standard Time for each district shall be that of the clock in the Train Dispatcher's office.

**15.** Where station clocks are provided, station agents must see that they show correct time; but trainmen and enginemen must not take time from such clocks unless they are also designated as Standard Clocks.

(9)



<p><b>Time table.</b></p> <p><b>19. A Time-table in the general law governing the arriving and leaving time of all regular trains at all stations. Time-tables will be issued from time to time, as may be necessary. The times given for each train on the Time-table is the Schedule of such train.</b></p> <p>Copies of Time-tables will be furnished to all concerned. Train Dispatchers must know that every conductor and engine man has a copy of same before allowing them to occupy main track after it has taken effect, and must ascertain from conductor or engine man if such Time-table has been received; such inquiry and answer to be in the following form and copied in train order book:</p> <p>Have you received employees' Time-table No. .... to take effect at ..... M. .... (date).</p> <p>I have received employees' Time-table No. .... to take effect at ..... M. .... (date).</p> <p><b>20. Each Time-table, from the moment it takes effect, supercedes the preceding Time-table, and all special instructions relating thereto; and trains shall be run as directed thereby, subject to the rules. All regular trains on the road running according to the preceding Time-table shall, unless otherwise directed, assume the times and rights of trains of corresponding numbers on the new Time-table.</b></p> <p><b>21. Upon the Time-table not more than two sets of figures are shown for a train at any point. When two times are shown, the earlier is the arriving time and the later the leaving time. When one time is shown it is the leaving time, unless otherwise indicated.</b></p> <p><b>Regular meeting or passing time is in full-faced type.</b></p> <p>Both the arriving and leaving time of a train are in full-faced type when both are meeting or passing times, or when one or more other trains are to meet or pass it between those times.</p> <p>In all cases trains are required to clear and follow as per rules 85 to 90 inclusive.</p> <p><b>22. On the employee Time-table the words "daily," "daily, except Sunday," etc., printed at the head and foot in connection with a train, indicate how it shall be run. The figures given at intermediate stations shall not be taken as indicating that a train will stop unless the rules require it. The following signs placed before the figures indicate:</b></p> <p>"g"—regular stop.</p> <p>"r"—stop on signal to receive or discharge passengers or freight.</p> <p>"p"—stop for meals.</p> <p>"p"—day telegraph stations.</p> <p>"n"—night telegraph stations.</p> <p>"O"—scales.</p> <p>"C"—coal.</p>	<p><b>Signal Rules.</b></p> <p><b>23. Conductors, engineers, firemen, brakemen, switchmen, track foremen, road and bridge watchmen, and all other employees whose duties may require them to give signals must provide themselves with the proper appliances, and keep them in good order and always ready for immediate use.</b></p> <p><b>24. Flags of the proper color must be used by day, and lamps of the proper color by night or whenever from fog or other causes the day signals cannot be clearly seen.</b></p> <p><b>25. Red signifies danger, and is a signal to stop.</b></p> <p><b>26. Green signifies caution and is a signal to go slowly.</b></p> <p><b>27. White signifies safety, and is a signal to go on.</b></p> <p><b>28. Green and white is a signal to be used to stop trains at flag stations for passengers or freight.</b></p> <p><b>29. Blue is a signal to be used by car inspectors.</b></p> <p><b>30. An explosive cap or torpedo, placed on the top of the rail, is a signal to be used in addition to the regular signals.</b></p> <p>The explosion of one torpedo is a signal to stop immediately; the explosion of two torpedoes is a signal to reduce speed immediately, and look out for a danger signal.</p> <p><b>31. A fuse is an extra danger signal, to be lighted and placed on the track at night, in cases of accident or emergency.</b></p> <p>A train finding a fuse burning upon the track must come to a stop and not proceed until it is burned out.</p> <p>Care must be taken not to throw off a fuse where it will do any damage by fire.</p> <p><b>32. A flag or lamp swung across the track, a hat or any object waved violently by any person on the track, signifies danger, and is a signal to stop.</b></p> <p><b>TRAIN SIGNALS.</b></p> <p><b>33. Each train, while running, must display two green flags by day and two green lights by night, one on each side of the rear of the train as Markers, to indicate the rear of the train. Yard engines will not display Markers.</b></p> <p><b>34. Each train running after sunset, or when obscured by fog or other causes, must display the head-light in front, and two or more red lights in the rear. Yard engines must display two green lights instead of red, except when provided with a head-light on both front and rear.</b></p>	<p><b>Ball cord.</b> 35. Each car on a passenger train while running must be in communication with the engine. In the absence of an equivalent appliance, a ball-cord must be attached to the signal-bell of the engine, passing through or over the entire length of the train, and secured to the rear end of it.</p> <p><b>Green.</b> 36. Two green flags by day and two green lights by night, displayed in the places provided for that purpose on the front of an engine, denote that the train is followed by another train, running on the same Schedule and entitled to the same Time-table rights as the train carrying the signals.</p> <p><b>White.</b> 37. Two white flags by day and two white lights by night, displayed in the places provided for that purpose on the front of an engine, denote that the train is an extra. These signals must be displayed by all extra trains, but not by yard engines.</p> <p><b>Blue.</b> 38. A blue flag by day and a blue light by night, placed at the end of a car or train denotes that car inspectors are at work under or about the car or train. The car or train thus protected must not be coupled to, or moved, until the blue signal is removed by the car inspectors.</p> <p>When a car or train standing on a siding is protected by a blue signal, other cars must not be placed in front of it so that the blue signal will be obscured, without first notifying the car inspector, that he may protect himself, and not then until the signal is removed.</p> <p><b>WHISTLE SIGNALS.</b></p> <p><b>39. One long blast of the whistle is the signal for approaching stations, railroad crossings and junctions (thus, —).</b></p> <p><b>40. One short blast of the whistle is the signal to apply the brakes—stop (thus, —).</b></p> <p><b>41. Two long blasts of the whistle is the signal to throw off the brakes (thus, —).</b></p> <p><b>42. Two short blasts of the whistle is an answer to any signal, except "train parted" (thus, —).</b></p> <p><b>43. Three long blasts of the whistle (to be repeated until answered as provided in rule No. 62) is a signal that the train has parted (thus, —).</b></p> <p><b>44. Three short blasts of the whistle, when the train is standing (to be repeated until answered, as provided in rule No. 61) is a signal that the train will back (thus, —).</b></p> <p><b>45. Four long blasts of the whistle (thus, —) is a signal to call in a flagman from the west.</b></p> <p>Four long followed by one short blast of the whistle (thus, —) is the signal to call in a flagman from the east.</p> <p><b>46. Four short blasts of the whistle is the engine man's call for signals from switch-tenders' watchmen, trainmen and others (thus, —).</b></p> <p><b>47. Five short blasts of the whistle is a signal to the flagman to go back and protect the rear of the train (thus, —).</b></p>
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48. One long followed by two short blasts of the whistle is a signal to be given by trains on single track, when displaying signals for a following train, to call the attention of trains of the same or inferior class to the signals displayed (thus, — — — — —).

49. Two long, followed by two short, blasts of the whistle is the signal for approaching road crossings at grade (thus, — — — — —). This signal will also be used where the view is obstructed by curves in case of trains running ahead of time, night trains when behind time after daylight and extra trains, at least once every mile.

50. A succession of short blasts of the whistle is an alarm for persons or cattle on the track, and calls the attention of trainmen to danger ahead.

50-a. Two short blasts given three times is the signal for air brakes sticking. See air brake rules.

#### BELL-CORD SIGNALS.

51. One tap of the signal-bell, when the train is standing, is the signal to start.

52. Two taps of the signal-bell, when the train is running, is the signal to stop at once.

53. Two taps of the signal-bell, when the train is standing, is the signal to call in the flagman.

54. Three taps of the signal-bell, when the train is running, is the signal to stop at the next station.

55. Three taps of the signal-bell, when the train is standing, is the signal to back the train.

56. Four taps of the signal-bell, when the train is running, is the signal to reduce speed.

57. When one tap of the signal-bell is heard while a train is running, the engine man must immediately ascertain if the train is parted, and if so, be governed by Rule No. 103.

58. Signals of the same number of sounds shall have the same significance when given by other appliances than bell-cords and signal-bells.

#### LAMP SIGNALS.

59. A lamp swung across the track is the signal to stop.

60. A lamp raised and lowered vertically is the signal to move ahead.

61. A lamp swung vertically in a circle across the track, when the train is standing, is the signal to move back.

62. A lamp swung vertically in a circle at arm's length across the track, when the train is running, is the signal that the train has parted.

63. A flag, or the hand, moved in any of the directions given above, will indicate the same signal as given by a lamp.

#### FIXED SIGNALS.

64. Fixed signals are placed at junctions, railroad crossings, stations, and other points that require special protection. Special instructions will be issued indicating their position and use.

#### RULES GOVERNING USE OF SIGNALS.

65. A signal imperfectly displayed, or the absence of a signal at a place where a signal is usually shown, must be regarded as a danger signal, and the fact reported to the Superintendent.

66. The unnecessary use of the whistle is prohibited; when necessary in shifting at station and in yards, the engine bell should be rung, and the whistle used only when required by rule or law, or when necessary to prevent accident.

67. The whistle must not be sounded while passing a passenger train, except in cases of emergency or danger, or when required by the rules.

68. When a danger signal (except a fixed signal) is displayed to stop a train, it must be acknowledged as provided in rule No. 42.

69. The engine-bell must be rung before starting a train, and when running through tunnels and the streets of towns or cities.

70. The engine-bell must be rung for a quarter of a mile before reaching every road crossing at grade, and until it is passed; and the whistle must be sounded at all whistling-posts.

71. When two or more engines are coupled to the head of a train, the leading engine only shall display the signals as provided in Rules No. 36 and 37.

72. One flag or light displayed as a classification signal will be regarded the same as if two were displayed; but conductors and engine men will be held responsible for the proper display of all train signals.

73. When a train is being pushed by an engine (except when shifting and making up trains in yards) a white light must be displayed on the front of the leading car at night, or when the train is obscured by fog or other cause.

74. When a train turns out to meet or pass another train, the red lights must be removed and green displayed as soon as the track is clear; but the red must again be displayed before returning to its own track.

75. Head-lights on engines when on side tracks or at the end of double tracks, waiting for trains, must be covered as soon as the track is clear and the train has stopped.

In case there is more than one train to take the siding, the engine man of the first train will not cover the headlight until all trains are on the siding and the switch set for the main track. The main track will be considered obstructed while the headlight is shown, but this will not relieve conductors from protecting their trains by flag.

76. The combined green and white signal is to be used to stop a train only at those flag stations designated by the schedule of that train. When it is necessary to stop a train at a point that is not a flag station for that train, a red signal must be used.

77. White signals must be used by watchmen at public road and street crossings to prevent persons and teams from crossing when trains are approaching.

ing. Danger signals must be used only when necessary to stop trains.

77. Torpedoes must not be placed near stations or road crossings, where persons are liable to be injured by them.

78. All signals must be used strictly in accordance with the rules, and trainmen and engine men must keep a constant lookout for signals.

#### TRAIN RULES.

##### CLASSIFICATION OF TRAINS.

79. All trains are designated as regular or extra. Regular trains are those represented on the Time-table, and may consist of one or more sections. All sections of a train, except the last, must display signals as provided in Rule No. 36. Extra trains are those not represented on the Time-table. An engine without cars, in service on the road, shall be considered a train.

80. All regular trains are classified on the Time-table with regard to their priority of right to the track; trains of the first-class being superior to those of the second, and all succeeding classes, and trains of the second class being superior to those of the third and all succeeding classes; and so on indefinitely. The terms passenger, freight or mixed are descriptive and do not refer to class.

81. Extra trains may be distinguished as, Passenger Extra, or Special; Freight Extra; Work Train Extra.

82. All extra trains are of inferior class to all regular trains of whatever class.

##### MOVEMENT OF TRAINS.

83. A train of inferior class must in all cases keep out of the way of a train of superior class.

84. On single track, all trains in one direction, specified in Time-table, have the absolute right of track over trains of the same class running in the opposite direction.

85. When trains of the same class meet on single track, the train not having right of track must take the siding and be clear of the main track before the leaving time of the opposing train; but such train must not pass the switch to back in on a siding, until after the arrival of the opposing train, unless otherwise directed by special instructions. When necessary to back in on the siding, before passing the switch, a flagman must be sent out in the direction of the opposing train as per rule No. 98.

86. When a train of inferior class meets a train of superior class on single track, the train of inferior class must take the siding and clear the train of superior class ten minutes. A train of inferior class must keep ten minutes off the time of a train of superior class following it.



**87.** A train or engine must not leave a station to follow a train or engine until ten minutes after departure of such train or engine unless some form of block signal is used.

**88.** All trains running in the same direction must keep not less than ten minutes apart, unless some form of block signal is used.

**89.** When two or more trains are run in company they must be kept ten (10) minutes apart, except at meeting points, where they may close up to allow following sections to come in, but always with great care and train under perfect control. At such points the responsibility for a collision rests with the following train. The following train must approach all Stations carefully expecting to find the leading train at the Station. When fog, darkness, dangerous places, or other circumstances, render it necessary, the forward train, as an extra precaution, will send out a flagman; but it must be distinctly understood that this does not relieve the following train from responsibility for a collision.

Conductors and enginemen will be held equally responsible for the violation of any of the rules governing the safety of their trains, and they must take every precaution for the protection of their trains, even if not provided for by the rules.

**90.** No train must leave a station expecting to meet or be passed at the next station by a train having the right of track, unless it has full schedule time to make the meeting or passing point, and clear the track by the time required by Rules Nos. 85 and 86.

**91.** A train not having right of track must be entirely clear of the main track by the time it is required by rule to clear an opposing train or a train running in the same direction; failing to do so, it must be immediately protected as provided in Rule No. 99.

**92.** Except at meeting or passing points, as provided in Rules Nos. 85 to 91 inclusive, no train must arrive at a station in advance of its schedule arriving time, when shown.

No train must leave a station in advance of its schedule leaving time.

**93.** All trains must stop at scheduled meeting or passing points on single track, if the train to be met or passed is of the same class, unless the switches are plainly seen to be right, and the truck clear. The point at which a train should stop is the switch used by the train to be met or passed in going on the siding.

When the expected train of the same class is not found at the scheduled meeting or passing point, the train having right of track must approach all sidings prepared to stop, until the expected train is met or passed.

**94.** All trains must approach the end of double track, junctions, railroad crossings at grade, and drawbridges, prepared to stop, and must not proceed until the switches or signals are seen to be right or the track is plainly seen to be clear. Where required by law, all trains must stop.

**95.** No train must leave a junction, a terminal, or other starting point, or pass from double to single track, until it is ascertained that all trains due which have the right of track against it, have arrived.

**96.** When a passenger train is detained at any of its usual stops more than five minutes, the flagman must go back with danger signals and protect his train, as provided in Rule No. 99; but if it stops at any unusual point, the flagman must immediately go back far enough to be seen from a train moving in the same direction when it is at least one-half mile (sixteen telegraph poles) from the rear of his own train, and if the stop is over five minutes, he must be governed by Rule No. 99.

When it is necessary to protect the front of the train, the same precautions must be observed by the fireman. If the fireman is unable to leave the engine, the front brakeman must be sent in his place.

**97.** When a freight train is detained at any of its usual stops more than five minutes, where the rear of the train can be plainly seen from a train moving in the same direction at a distance of at least two-thirds of a mile (twenty telegraph poles), the flagman must go back with danger signals not less than one-eighth of a mile (four telegraph poles), and as much farther as may be necessary to protect his train; but if the rear of his train cannot be plainly seen at a distance of at least two-thirds of a mile, or if it stops at any point that is not its usual stopping place, the flagman must go back not less than one-half mile, and if his train should be detained until within ten minutes of the time of a passenger train moving in the same direction, he must be governed by Rule No. 99.

When it is necessary to protect the front of the train, the same precautions must be observed by the fireman. If the fireman is unable to leave the engine, the front brakeman must be sent in his place.

**98.** When it is necessary for the flagman to go back to protect the rear of his train, the next brakeman must immediately take the flagman's position on the train, and remain there until relieved by the flagman; and on passenger trains the baggage master must take the place of the front brakeman whenever necessary.

**99.** When a train is stopped by an accident or obstruction, the flagman must immediately go back with danger signals to stop any train moving in the same direction. At a point one-fourth of a mile from the rear of his train he must place one torpedo on the rail; he must then continue to go back at least one-half mile from the rear of his train and place two

torpedoes on the rail, ten yards apart (one rail end), when he may return to a point one-fourth of a mile from the rear of his train, and he must remain there until recalled by the whistle of his engine; but if a passenger train is due within ten minutes, he must remain until it arrives. When he comes in, he will remove the torpedo nearest to the train, but the two torpedoes must be left on the rail as a caution signal to any following train.

If any accident or obstruction occurs upon a single track, and it becomes necessary to protect the front of the train, or if any other track is obstructed, the fireman must go forward and use the same precautions. If the fireman is unable to leave the engine, the front brakeman must be sent in his place.

**99a.** When a flagman is recalled and there is not a clear view for a quarter of a mile (eight telegraph poles) in rear of train, the train must start immediately on sounding of the whistle recalling flagman and be moved ahead, at a speed of not less than six miles per hour, until it reaches a point where the track is straight for a quarter of a mile (eight telegraph poles) in its rear. A flagman must always bear in mind that the time of his return to his train is the time of greatest risk. He must be attentive, and should be seen or hear a train approaching, he must remain and use every exertion to stop it in time to prevent accident. In foggy, stormy or snowy weather, or in vicinity of curves or descending grades the number of torpedoes used should be increased.

When a train is flagged the enginemen must obtain a thorough explanation of the cause before proceeding—coming to a full stop and picking up flagman if necessary.

**100.** Freight trains having work to do on any other track may cross over if no passenger train is due, provided no approaching freight train is in sight; and also provided that a flagman has been sent with danger signals, as provided in Rule No. 99, not less than one-half mile (sixteen poles), in the direction of the expected train.

**101.** When a freight train on double track turns out on to the opposite track to allow a passenger train running in the same direction to pass, and, while waiting, a passenger train from the opposite direction arrives, the freight train may cross back and allow it to pass, provided the other passenger train is not in sight; and also provided that a flagman has been sent with danger signals, as provided in Rule No. 99, not less than one-half mile in the direction of the expected train.

**102.** When it is necessary for a freight train on double track to turn out on to the opposite track to allow a passenger train running in the same direction to pass, and a passenger train running in the opposite direction is due, a flagman must be sent back with the danger signals, as provided in Rule No. 99, not less than one-half mile in the direction of the following train, and the freight train must not

**Clearing superior track.**

**Clearing on double track to pass train.**

**Warning junctions, rail road crossings and draw bridges.**

**Warning terminals.**

**Protecting passenger trains.**

**Protecting freight trains.**

**Flagman danger signals.**

**Flagman danger signals.**

crosses over until one of the passenger trains arrives. Should the following passenger train arrive first, a flagman must be sent forward on the opposite track with danger signals, as provided in Rule No. 99, not less than one-half mile in the direction of the over-  
due passenger train before crossing over. Great caution must be used, and good judgment is required to prevent detention to either passenger train. The preference should always be given to the passenger train of superior class.

**103.** If a train should part while in motion, trainmen must use great care to prevent the detached parts from coming into collision. Enginemen must give the signal as provided in Rule No. 43, and keep the front part of the train in motion until the detached portion is stopped.

The front portion will have the right to go back regardless of all trains, to recover the detached portion, first sending a flagman with danger signals one-half mile in the direction in which the train is to be backed, and running with great caution, at a speed not exceeding four miles per hour. On single track all the precautions required by the Rules must also be taken to protect the train against opposing trains. The detached portion must not be moved or passed around until the front portion comes back. This rule applies to trains of every class.

An exception will only be made to the above when it is known that the detached portion has been stopped and when the whole occurrence is in plain view, no curves or other obstructions intervening, so that signals can be seen from both portions of the train. In that event the conductor and enginemen may arrange for the re-coupling, using the greatest caution.

**104.** When a train is being pushed by an engine (except when shifting and making up trains in yards) a flagman must be stationed in a conspicuous position on the front of the leading car, so as to perceive the first sign of danger and immediately signal the engineman.

**105.** A train starting from a station or leaving a junction, when a train of the same class running in the same direction is overdue, will proceed on its own time and rights, and the overdue train will run as provided in Rule 88 or 89.

**106.** A train which is delayed, and falls back on the time of another train of the same class, does not lose its rights.

**107.** Regular trains twelve hours or more behind their schedule time lose all their rights.

**108.** A train overtaking another train of the same or superior class, disabled so that it cannot move, will run around it, assuming the rights and taking the orders of the disabled train to the next telegraph office which is open, where it will report to the Superintendent. The disabled train will assume

the rights of the last train passing it, till the next telegraph office is reached.

**Orders in 109.** All messages or orders respecting the movement of trains or the condition of track or bridges must be in writing.

**Order for 110.** Trains must not display signals for a following train without an order from the Superintendent.

**Extra 111.** Extra trains must not be run on single track without an order from the Superintendent. On the arrival of an extra train at its appointed destination, or on its quitting the use of the road when authorized to run back and forth, the conductor (or engineman, in case of an engine or train without a conductor) shall notify the Superintendent to that effect in writing, to be sent by telegraph and placed on file by the sending operator, and all its rights to run shall then expire.

**112.** When signals displayed for a following train on single track are taken down at any point before the following train arrives, the conductor must inform the Superintendent promptly by telegraph, and also the operator or switchtender; and the latter unless there is some other provision for the purpose, must notify all opposing trains of the same or inferior class leaving that point before the train arrives for which signals were displayed.

If signals are taken down at a point where there is no operator, switchtender, or other provision for the purpose, the conductor must notify all opposing trains of the same or inferior class until he reaches the next telegraph office, when he must inform the Superintendent; and the operator, unless there is some other provision for the purpose, must notify all opposing trains of the same or inferior class until directed otherwise by the Superintendent.

If the train for which signals were displayed leaves the main line at a point where there is no operator, a flagman must be left to notify opposing trains that it has arrived.

**Work 113.** Work trains will be run as extras under special orders, and will be assigned working limits.

**Approach 114.** Great care must be exercised by the trainmen of a train approaching a station where any train is receiving or discharging passengers.

**115.** Enginemen must observe trains on the opposite track, and if they are running too closely together call attention to the fact.

**Riding 116.** No person will be permitted to ride on engines, or in baggage, mail, or express cars, except employees, in the discharge of their duties, without a written order from the proper authority.

**Responsi- 117.** Conductors will be held responsible for the proper adjustment of the switches used by them and their trainmen, except whose switchtenders are stationed.

Whoever opens a switch shall remain at it until it is closed, unless relieved by some other competent employe.

When there is more than one train to use a switch it must not be left open unless one of the trainmen of the following train is at the switch and takes charge of it.

At meeting or passing points, the employe attending the switch, will, after locking it to main track, take position on opposite side of track from the switch-stand, and remain there until the expected train has passed.

Except to prevent accident, switches must never be turned when an engine or car is on slide rail.

**118.** Accidents, detention of trains, failure in the supply of water or fuel, or defects in the track or bridges must be promptly reported by telegraph to the Superintendent.

**119.** No train shall leave a station without a signal from its conductor.

**120.** In all cases of doubt or uncertainty, take the safe course and run no risks.

### SPECIAL RULES.

**200.** Each person in the employ of the Company is to devote himself exclusively to its service, attending during the prescribed hours of the day or night, and residing wherever he may be required.

**201.** Unless appointed to do so, he is not to receive money on the Company's account. To use the credit of the Company is forbidden, unless special authority is given by the proper official.

**202.** Ties, timber, coal or other material (whether old or new), must not be taken for the use of employes or others.

**203.** All employees, especially those in places of trust, are required to report any misconduct or negligence affecting the interest or safety of the Company, and withholding such information, will be considered a proof of negligence or indifference, and treated accordingly.

**204.** Employees leaving the Company's service must deliver up the property entrusted to their care, or at any time when demanded by proper authority.

**205.** Persons having control of men must never curse or abuse them. Boisterous, profane or vulgar language is forbidden. Employees must not enter into altercation with any person, no matter what provocation may have been given, but will make note of the facts and report to their immediate superiors.

**206.** Employees are forbidden to offer testimonials to their superiors either directly or indirectly, and those in *summarily* will not accept such presents or testimonials. The acceptance of gratuities or rewards from passengers or other patrons of the Company is forbidden.

**207.** The habitual use of Intoxicating Drink by employes will be considered good cause for dismissal from the service. Smoking



ing is not allowed about the shops, station buildings and warehouses. Employees at stations and on passenger trains are prohibited from smoking when on duty.

208. No employee will be permitted to engage in other business, without the consent of the Head of the Department under whom he may be employed, approved by the General Manager.

209. No employee will be allowed to absent himself from duty, without permission from proper authority.

210. A person discharged from one Department or Division, shall not be employed in another without the written consent of the General Manager.

211. Every person, accepting a position with this Company, does so with the full knowledge of the dangers, incident to the operation of railways and agrees to exercise due care in the performance of his duties, to prevent accident to himself or others, and before using them to see that the machinery or tools which he is to use are in a safe condition to perform the services required.

212. Employees are not expected to incur any risk of injury which they can avoid by the exercise of judgment and care.

213. Employees are warned not to catch on to the front or rear end of the engine as it approaches them, or to jump on or off trains or engines moving at a high rate of speed, or to get between cars in motion to uncouple them, or to follow other dangerous practices.

214. Employees are directed to report to the Superintendent any defects in tracks, machinery or appliances of the road, liable to cause accident.

215. Employees must not remove any of the appliances of the engine or cars, for the sake of convenience in switching, thereby endangering those who are required to make couplings. Drawheads, drawbars and coupling apparatus must be examined before coupling is made, and if there is anything dangerous, the coupling must not be made but the fact reported to proper official.

216. Employees will not attempt to make a coupling if the car or engine is moving faster than a man ordinarily walks. In coupling the Miller hook with other styles of drawbars, first insert the link in the hook, using pin obtained to the Miller platform.

217. Employees must exercise great care in handling their engines while yardmen or others are making couplings, and give close attention to signals.

218. In case freight trains, on which passengers are allowed to be carried, are run in sections, the last section of the train only will be permitted to carry passengers, except persons in charge of live stock and freight, and unless otherwise ordered, the last section will do the local work. When the last section is more than one hour behind the first, pas-

sengers may be carried on the first section upon special order from the Superintendent.

219. When a light engine or special train is sent over the road on the time of a regular train, it shall be run as the first section.

220. Enginemen must not allow others to handle their engines, except their own firemen, the engineman remaining upon the engine and being responsible.

221. Enginemen must use great care to avoid striking stock. If necessary, bring the train to a full stop. Should any stock be killed or injured, the engineman must report same on the prescribed forms.

222. Conductors and enginemen are required to fill up trains to the full capacity of their engines.

223. In case trains under danger signals should meet between stations, the train nearest to a siding should be backed.

By running under danger signals it is understood to run at a rate not exceeding four (4) miles per hour with a flagman one-half mile in advance at all points where there is not a clear view of the track for at least one mile.

Whenever it becomes necessary to back a train, it must be done with great care, under cover of danger signals, and keeping a man constantly on rear car.

224. First-class trains when behind time must not exceed card time unless the condition of track, weather and all circumstances warrant their doing so with safety.

Other trains must not exceed the speed specified in special rules on any portion of the road without a special order from the Superintendent.

Conductors and enginemen are cautioned against reckless running. They must run steadily and uniformly, adhering as closely to time as due regard for safety permits.

225. Conductors, enginemen and agents will be held to strict account for delays resulting from bad management of their own or on the part of those for whom they are responsible.

Promptness and dispatch are urgently enjoined in transacting business at stations, taking water, oiling, etc.

Station work should be done immediately on arrival.

226. Conductors and switchmen must open their trains to clear all public crossings while standing at stations and in no case block a public crossing longer than five (5) minutes. When passenger trains arrive at stations, care must be taken by freight conductors and switchmen to open their trains to allow passage way for persons going to and from the passenger train.

In no case must a train be backed over a public crossing or highway unless there is a man on rear car to see that crossing is clear; nor must a car be out loose and allowed to run over a public crossing or highway unless there is a man on car. At night the man relieved to must display a light.

227. In case of an extraordinary rain storm or high water, trains must be brought to a stop and a man sent out to examine bridges, trestles, culverts and other points liable to damage, before passing over.

Conductors will make careful inquiry at all stopping places, and when thought advisable make extra stops to ascertain the extent and severity of storms, taking no risk. In case of doubt as to safety of proceeding, they will place their trains upon the siding and remain there until certain it is safe to proceed.

228. When a conductor discovers anything wrong with the track, bridges or culverts, which case of anything with the train, he must not rely wholly upon the telegraph to notify other trains, but must leave a flagman.

229. In making reports of accidents and unusual occurrences, the situation must be fully, clearly and precisely stated, with all relative facts and particulars necessary to a clear understanding of them, as known to the person making the report, without necessity for inquiries to extract such information. Exaggerations must be avoided.

In emergencies, or obstruction of the road by accident or other cause, suggestions based on observation of the actual situation are useful and required, and frequent reports of progress must be made.

In such cases prompt action is required of all employees, and in the absence of designation, the employee on whom the responsibility most naturally falls, will assume authority to direct the work.

230. When cars leave the track, they must not be turned over, thrown down embankments, broken up or otherwise damaged, merely to get them out of the way. Every effort must be made by trainmen to put them on the track with as little injury as possible, and take the damaged cars to a siding. The conductor will call on section men or any other convenient force, for assistance, which must be promptly rendered.

231. Conductors will see that the words "Bad Order" are written with chalk on both sides of bad order cars left at stations, and defective part marked with a cross, and report same to Superintendent by telegraph.

232. Should an engine on a passenger train be disabled on the road, the conductor may take any freight engine available.

233. Conductors will comply with instructions of agents in placing cars and doing other station work. If necessary to move cars for loading or unloading,

Station.

Next leaving wrong with the track, bridges or culverts, which case of anything with the train, he must not rely wholly upon the telegraph to notify other trains, but must leave a flagman.

Reports.

Cars must not be turned over, thrown down embankments, broken up or otherwise damaged, merely to get them out of the way. Every effort must be made by trainmen to put them on the track with as little injury as possible, and take the damaged cars to a siding. The conductor will call on section men or any other convenient force, for assistance, which must be promptly rendered.

Mark disabled order. Conductors will see that the words "Bad Order" are written with chalk on both sides of bad order cars left at stations, and defective part marked with a cross, and report same to Superintendent by telegraph.

Authority to take freight engine.

Placing cars at stations.

they must be replaced. In case agents' orders are unreasonable, the facts must be reported to the Superintendent; but the agents' orders must be carried out if practicable without endangering or delaying passenger trains. Agents will report violations of this rule, and all cases where conductors refuse to take cars that are ready to go.

**234. Conductors of trains carrying live stock** will consult the wishes of the stockmen in matters pertaining to the care and comfort of the stock. Especial attention must be given to stock unaccompanied by drovers. In warm weather trainmen will water hogs as often as may be necessary.

**235. The doors of empty cars hauled in** trains must be kept closed. Trainmen will be held responsible for the proper care and protection of goods and property while in transit in their trains, and they must see that the doors of loaded cars are properly secured and protected as required.

**236. Conductors and engine men are prohibited** from going to meals, or delaying their train for any cause, after receiving an order to proceed, without permission from the Superintendent. If permission is received, the conductor must report for further orders when ready to go.

**237. Conductors and brakemen are required to** be on duty at least thirty minutes in advance of their leaving time. Passenger brakemen will remain by their trains to assist passengers, examine tickets and answer inquiries.

**238. A Brakeman must always be sta-** tioned on the rear car of every train; and must have in his possession a red flag by day, and red and white lanterns (lighted) by night; also six torpedoes ready for immediate use. Every engine must carry a similar equipment of signals for use by the fireman. Conductors and engine men must know that their brakemen and firemen are conversant with and properly understand the application of rules relating to flagging of trains. Conductors of freight trains must see that their brakemen are on top of the train before reaching the whistling post approaching and passing stations. Brakemen must not apply brakes so tightly as to slide a wheel nor allow the brake to remain applied over three minutes while in motion, but in descending grades will use the brake of several cars to check and regulate the train and change brakes frequently. Sticks must not be used to turn the brake wheel in applying brakes.

**239. Conductors must give particular attention** to the safety and comfort of their passengers. Careful attention must be given to the Heating, Lighting and Ventilation of cars and the supply of water in the tanks. Brakemen and train porters will be required to assist ladies, children and infirm persons off and on the cars. Conductors will perform this duty themselves when necessary.

**240. Conductors will prevent any unnecessary** noise about passenger trains, particularly at night, and not allow employees to enter or pass through sleeping or dining cars, except when necessary in the discharge of their duties. While meals are being served in dining cars, conductors, trainmen and news agents must, as far as possible, avoid passing through those cars and must remove their hats while in the car. Conductors will not collect tickets or fares from passengers while at meals, except when it is necessary to do so, and will not permit news agents to carry their wares through the dining cars at meal time except under special circumstances. Cars must be taken in switching and handling passenger cars, to disturb the occupants as little as possible.

**241. Conductors will see that passengers are** seated, and not permit them to ride on the platform. Freight train conductors must allow none but train crew to ride on freight cars.

**242. Conductors will collect fares from all persons** traveling without a ticket or pass, and will be allowed no discretion in the matter. Persons entitled to free transportation will be furnished with passes upon application to the proper officials. Fares wrongfully collected will be refunded.

**243. Freight trains will not carry passengers** except as designated in the Special Rules. Trains so designated will carry employees with passes and passengers when provided with proper transportation as required by the rules.

**244. News Agents must not be allowed to dis-** charge their duties unless equipped with the cap and badge designated for them to wear. Neatness in personal appearance is required.

**245. Agents will be held responsible for the good** conduct of News Agents while on duty, and are authorized to prevent them acting in that capacity

for insubordination, violation of rules, or any improper action, and will see that nothing improper is offered for sale, and should there be, they will suppress it and promptly report the facts to the Superintendent. News Agents must not be allowed to annoy passengers by urging their sales, leaving books and articles with them unsolicited, or in any other manner.

**246. Conductors must look out for confidence** men, monte players, prize package vendors and swindlers, and when known to be on the train must have them watched, and personally warn passengers and otherwise prevent their operating on the train, and report case by case to the Superintendent. They must not permit beggars, gamblers or unauthorized peddlers to practice their vocations on the train, or allow advertising matter to be distributed.

**247. Conductors and engine men will carefully** inspect Bulletin Boards before starting from terminal stations.

**248. Conductors of all trains must enter in** train register book at terminal stations, or wherever such books are kept, the time of arrival and departure of their trains and all information called for by same.

**249. Conductors of trains when meeting each** other by special order will fill up and exchange identification tickets, showing number of train and number of engine.

**250. Passenger trains must be made up in fol-** lowing order: Fruit, mail, express, baggage, smoking, Second-class coaches, First-class coaches, Chair and Sleeping cars. Freight and mixed trains in the following order: Freight cars equipped with Miller, Janney or other similar Coupler and Air Brake must be hauled in forward part of train; freight cars not equipped with Air Brakes or Air Pipes and connections must be placed in rear of Air Brake Cars. Passenger equipment will be placed in rear of such trains.

**251. Agents must not allow cars to stand on** main track for loading or any other purpose without special permission from the Superintendent in each

Passenger cars having Baker heaters must be run with heater to the front when practicable.

**252. Switches, when not in actual use, must be** set for the main track and locked. Agents are responsible for the proper position and security of switches at their stations, and must know personally, at least ten minutes before the regular trains are due, and before leaving their stations at night, that switches are secure and everything is right for safe passage of trains.

**253. Agents must not allow cars to stand on** main track for loading or any other purpose without special permission from the Superintendent in each

Passenger cars having Baker heaters must be run with heater to the front when practicable.

**254. Switches, when not in actual use, must be** set for the main track and locked. Agents are responsible for the proper position and security of switches at their stations, and must know personally, at least ten minutes before the regular trains are due, and before leaving their stations at night, that switches are secure and everything is right for safe passage of trains.

**255. Agents must not allow cars to stand on** main track for loading or any other purpose without special permission from the Superintendent in each

Passenger cars having Baker heaters must be run with heater to the front when practicable.



case. He must know that cars on siding properly clear main track, that brakes are applied, and wheels blocked when necessary.

**252.** Agents will see that the doors and other openings of loaded cars are closed and securely fastened before being placed in trains, and that the doors of cars loaded with powder, oil, hay, straw, or other inflammable material, are battened, and placed in train near the caboose or at least ten cars distant from the engine, as a protection against fire. Conductors and agents must examine the fastenings of cars, and keep such a record of their condition as will enable them to answer all inquiries. All doors of loaded cars must be sealed, and those not provided with locks or other secure fastenings, must be cleated so that this door of every loaded car will be properly secured.

**253.** Sending personal packages or letters on private business by trains, is strictly prohibited. Communications by trains must be exclusively on official business.

**254.** Agents are required to make daily inspections of yards, platforms, offices, buildings, and surroundings, and will co-operate with Supervisors and Roadmasters in maintaining the neat and tidy appearance of same.

**255.** Cars containing time freight will (in addition to notation on way-bills) be designated by cards in the following form, tacked on doors on each side of car:

**Time Freight.**

Car Initial.....No.....For.....Station.  
From.....Station.....189..  
This car must have quick dispatch and preference over other cars not likewise carded.  
If for any cause the car has to be set out, conductors will telegraph Superintendent and state reason for same.

**M. R.**—This card must be detached by receiving agent, endorsed on back with required information, and sent by first passenger train to the General Freight Agent.

**ENDORSEMENT ON BACK.**

Car received at.....Station, in Train No. ....on the....day of.....189..  
These cards must be removed by receiving agents properly filled out and forwarded as directed.

**256.** Agents, operators, bridge and section men will advise the Superintendent promptly as to severity of storms and extent of damage, and also notify trainmen.

**257.** No person will be permitted to engage in train service without first passing the prescribed examination on these rules.

## TRACKMEN, BRIDGEMEN, WORK- TRAINMEN, AND WATCHMEN

**258.** All persons engaged in track or bridge work shall keep sharp look out for trains from either direction, and shall not assume that a train may not come for any certain time; nor act on the assurance of any person to that effect; and will protect themselves at all times with proper signals, as per Rule 99.

**They must bear in mind that under the telegraph system a train may be expected at any moment.**

**259.** Roadmasters are responsible for the safety of track; good condition of road bed, fences, right of way and grounds, and neat and tidy appearance of stations, buildings and surroundings. They will frequently examine bridges, culverts, water stations and other structures, and promptly report any defects or failure to Superintendent and Supervisor.

**260.** Supervisors are responsible for the safety and good condition of bridges, culverts, buildings and other structures. They will co-operate with Roadmasters in protecting the interests of the Company in all respects.

**261.** Supervisors, Roadmasters, and others employing foremen, will be held responsible for the proper understanding of these rules by their foremen.

**262.** Foremen must know that their gangs are always supplied with the proper signals and thoroughly instructed as to their use, and they will be held responsible for the strict observance of these rules by their men.

**263.** At all times when work is going on which renders the track unsafe for trains to pass at their usual rate of speed, proper signals must be sent out at least one quarter of a mile from the spot, in each direction, as a caution to approaching trains. After or during severe storms, or a thaw, a man must be sent over the road before the passage of regular trains for the purpose of ascertaining if track is safe.

**264.** Before a rail or frog is taken out, or any obstruction caused to the main track, or when any break or obstruction is discovered, the signal of danger must be sent out in both directions at least one-half mile from the point of danger, and a faithful man must remain and keep it displayed until he is recalled by the foreman, which must not be done until the track is known to be safe.

**265.** A red light or flag, when used as a danger signal, must be in the hands of a reliable man.

**266.** Foremen and men in their employ, must at all times hold themselves in readiness to aid the passage of trains; and in case of accident or delay, will obey the orders of the conductors.

**267.** Section foremen must pass over and examine their sections daily, and ascertain that the track, -lopes, cuts, bridges, switches, etc., are safe, and make necessary repairs. This should be done in the morning.

**268.** In case of extraordinary storms or high water, foremen must be out with their men (day and night) with proper signals, and watch those places most liable to damage, and take every precaution to prevent accident.

**269.** No wood, timber, freight, or material of any kind will be allowed within six feet of the main track. The exact location of elevators, warehouses, coal yards, lumber yards or wood yards, for outside parties, will be fixed by the Division Engineer, but shall not in any case be less than fifty feet from the center line of a main track, nor at a less distance than five and one-half feet from the nearest rail in side track to nearest part of building, nor less than one hundred and fifty feet from any of the Company's buildings. In no event will any such structure be located on any main or passing track or on the lead of any track. Rocks, trees, or other obstructions liable to fall on the track, must be immediately removed.

**270.** It is the duty of all employees to put out fires set by engines, or otherwise, and to guard the property of others as well as that of the Company, exposed to such fires, whether responsibility attaches to the Company or not.

**271.** Track and bridgemen will pay particular attention to the telegraph line. In case the wires are found broken or on the ground, crossed or in any way obstructed, they must be repaired in a temporary manner immediately, and where such repairs are impracticable, notice must be given by telegraph, messenger or the earliest means practicable.

**272.** Foremen must look after water stations, and will see that the water supply is kept up, and promptly report any failure or defect, and also see that fences and cattle guards are in good repair. A break in a fence should not be overlooked, and when it cannot be repaired for want of materials, the foreman will give the roadmaster immediate notice of it, stating what material is required. When fences are taken down for any purpose, they must be immediately replaced.

**273.** Hand cars or other property of the Company must not be used except on the business of the Company.

**274.** Foremen and others employing watchmen, must see that they understand and attend to their respective duties.

**275.** Watchmen will be required to report promptly any accident or risk of accident, or occurrences not consistent with safety or good order.

**276.** When day and night watchmen are employed, they must not leave their posts until relieved.

**Perform other duties as assigned and watchmen.**  
277. When the time of watchmen is not wholly occupied with watching, they will perform such other duties as may be required of them.

**Go over in train and passers.**  
278. The rounds of road watchmen or track walkers must be so arranged as to pass over their section in advance of passenger trains when practicable. They will carefully examine the roadway, keeping a sharp lookout for broken rails; observe switches, try locks, and see that they are in proper order; see that cars clear the main track; examine buildings and other property, and protect same from theft, fire, or other damage. Should an obstruction or anything occur that would be liable to endanger trains, they will at once display danger signals, as directed in the rules, and send word to their foreman and to the nearest telegraph office.

279. Bridge and snow-shed watchmen must pass over their beats immediately after the passage of trains, keeping sharp lookout for fire. They are responsible for the cleanliness about structures, and must remove combustible matter from their vicinity; make frequent examinations and report any decay or failure; they will allow no one but employees upon bridges or structures.

## RULES FOR THE MOVEMENT OF TRAINS BY TELEGRAPHIC ORDERS.

**Special orders, directing movements varying from or additional to the time-table, will be issued by the authority and over the signature of the Superintendent. They are not to be used for movements that can be provided for by rule or time-table. They must not contain information or instructions not essentially a part of them.**

They must be brief and clear, and the prescribed forms must be used when applicable; and there must be no erasures, alterations or interlineations.

Transfers of orders from one dispatcher or operator to another shall be in writing in the train order book, dated and timed, with complete list of unexpired orders; or if done by telegraph the above shall be transmitted; an understanding returned and "Complete" given, before the authority is exercised by another person.

**Each order must be given in the same words to all persons or trains directly affected by it, so that each shall have a duplicate of what is given to the others. Preferably an order should include but one specified movement.**

Orders will be numbered consecutively for each day as issued, beginning with No. 1 at midnight.

Orders must be addressed to those who are to execute them, naming the place at which each is to receive his copy. Those for a train must be addressed

to the conductor and engineman, and also to a person acting as pilot. A copy for each person addressed must be supplied by the operator.

**Each order must be written in full in a book provided for the purpose at the chief dispatcher's office; and with it must be recorded the names of train men and others who have signed for the order; the time and signals, showing when and from what offices the order and responses were transmitted; and the train dispatcher's initials. These records must be made at once on the original copy, and not afterward, from memory or memoranda.**

**The terms "superior right" and "inferior right" in these rules, refer to the rights of trains under the time table and train rules and not to rights under special orders.**

**When an order is to be transmitted, the signal "31" (as provided in Rule 509), meaning "Train Order," will be given to each office addressed, followed by the word "copy," and a figure indicating the number of copies to be made, if more or less than three—thus, "31 copy 5."**

**An order is to be sent to two or more offices must be transmitted simultaneously to as many as practicable. The several addressees must be in the order of superiority of rights of trains, and each office will take only its proper address. When not sent simultaneously to all the order must be sent first for the train having the superior right of track.**

**Operators receiving orders must write them out in manifold during the transmission, and make others from one of the copies first made.**

**When an order has been transmitted, preceded by the signal "31," operators receiving it must (unless otherwise directed), repeat it back at once from the manifold copy, and in the succession in which their several offices have been addressed. Each operator repeating must observe whether the others repeat correctly. After the order has been repeated correctly by the operators required at the time to repeat it, the response "O K," authorized by the Train Dispatcher, will be sent, simultaneously to as many as practicable, naming each office. Each operator must write this on the order with the time, and then reply "i O K," with his office signal.**

**Operators shall read orders aloud to the conductors and engineers addressed, and require them to sign their names thereon in proof of receipt and understanding. They will then transmit to the dispatcher, the signatures taken, and if approved by reply "Complete," enter the same upon the order with time received, sign their own names thereon in place provided, and deliver a copy to each conductor and engineman addressed.**

Operators shall not allow a copy of an order to leave their possession until complete, as prescribed in

these rules, nor enter "Complete" thereon in advance of its receipt, nor sign their names thereon until the order is otherwise all complete.

**For an order preceded by the signal "31," "complete" must not be given to the order for delivery to a train of inferior right until "O K" has been given to and acknowledged by the operator who receives the order for the train of superior right. Whenever practicable, the signature of the conductor and engineer of the train of superior right must be taken to the order and "complete" given before the train of inferior right is allowed to act on it.**

**After "O K" has been given and acknowledged and before "complete" has been given, the order must be treated as a holding order for the train addressed, but must not be otherwise acted on until "complete" has been given.**

**If the line fails before an office has received and acknowledged "O K" to an order preceded by the signal "31," the order at that office is of no effect, and must be there treated as if it had not been sent.**

**The order, the "O K" and the "complete" must each, in transmitting, be preceded by "31," and the number of order thus, "31" No. 10. In transmitting the signature of a conductor it must be preceded by "31," the number of the order, and the train number, thus "31, No. 10, Train No. 5." After each transmission and response the sending operator must give his office signal.**

**The operator who receives and delivers an order must preserve the lowest copy. On this must appear the signatures of those who sign for the order, and on it he must record the time when he receives it; the responses; the time when they are received; his own name; the date; and the train number, for which places are provided in the blanks. These copies must be sent to the Superintendent daily.**

**Orders used by conductors must be sent by them daily to the Superintendent.**

**Enginemen will place their orders in the clip before them until executed.**

**For orders delivered at the Dispatcher's office the requirements as to record and delivery will be the same as at other points.**

**Orders to persons in charge of work requiring the use of track in yards or at other points, authorizing such use when trains are late, must be delivered in the same way as to conductors of trains.**

**An order to be delivered to a train at a point not a telegraph station, or while the office is closed, must be addressed to "C. and E. No. — at — care of —"**

**and forwarded and delivered by the conductor or other person in whose care it is addressed. "Com-**





## FORMS OF TRAIN ORDERS.

### FORM A.—FIXING MEETING POINTS FOR OPPOSING TRAINS.

— and — will meet at —

#### EXAMPLES.

No. 1 (one) and No. 2 (two) will meet at Bombay.  
No. 3 (three) and No. 4 (four) will meet at  
Siam.  
No. 5 (five) and extra 35 (ninety-five) will meet at  
Hong Kong.  
Extra 622 (six, fifty-two) East and Extra 231  
(two, thirty-one) West will meet at Yokohama.

Trains receiving this order will, with respect to each other, run to the designated point, and having arrived there will pass in the manner provided by the rules.

### FORM B.—AUTHORIZING A TRAIN TO RUN AHEAD OF OR PASS ANOTHER TRAIN RUNNING IN THE SAME DIRECTION.

(1) — will pass — at —.

(2) — will run ahead of —, from — to —.

#### EXAMPLES.

(1) — No. 1 (one) will pass No. 3 (three) at Khar-toum.

(2) — No. 4 (four) will run ahead of No. 6 (six) from Bengal to Madras.

When under this order a train is to pass another, both trains will run according to rule to the designated point and there arrange for the rear train to pass promptly.

### FORM C.—GIVING A TRAIN OF INFERIOR RIGHT THE RIGHT OF TRACK AGAINST AN OPPOSING TRAIN OF SUPERIOR RIGHT.

[NOTE.—This form of order must not be used when Form A can be used.]

— has the right of track against —

#### EXAMPLES.

(1) — No. 3 (two) has right of track against No. 1 (one), Mecca to Mirbat.

(2) — Extra 37 (thirty-seven) has right of track against No. 3 (three), Natal to Raitlan.

[NOTE.—The terms "superior right" and "inferior right" here and elsewhere in these rules, refer to the rights of trains under the time-table and train rules, and not to rights under special orders.]

This order gives a train of inferior right the right of track against one of superior right, to a designated point.

If the trains meet at the designated point, the train of inferior right must take the siding, unless the rules or orders otherwise indicate.

Under this order, as illustrated by example (1), if the train of superior right reaches the designated point before the other train arrives, it may proceed, provided it keeps clear of the schedule time of the train of inferior right as many minutes as the inferior train was before required by the train rules to keep clear of the superior train.

If the train of superior right, before meeting, reaches a point beyond that named in the order, the conductor must stop the other train where it is met and inform it of his arrival.

Under example (2) the train of superior right cannot go beyond the designated point until the extra train arrives.

When the train of inferior right has reached the designated point, the order is fulfilled, and the train must then be governed by time-table and train rules or further orders.

The following modification of this form of order will be applicable for giving a work train the right of track over all other trains, in case of a wreck or break in the track.

#### EXAMPLE.

Work Train extra 275 (two seventy-five) has right over all trains between Stockholm and Edinburgh from 7 (seven) p. m.

This gives the work train the exclusive right of the track between the points designated.

### FORM D.—GIVING ALL REGULAR TRAINS THE RIGHT OF TRACK OVER A GIVEN TRAIN.

All regular trains have right of track against — between — and —.

#### EXAMPLE.

All regular trains have right of track against No. 1 (one) between Moscow and Berlin.

This order gives to any regular train of inferior right receiving it the right of track over the train named in the order, and the latter must clear the schedule times of all regular trains, the same as if it were an extra.

### FORM E.—TIME ORDERS.

[NOTE.—This form of order must not be used when Form A can be used.]

(1) — will run — late from — to —

(2) — will wait at — until — for —

#### EXAMPLE.

(1) No. 1 (one) will run 20 (twenty) min. late from Joppa to Mainz.

(2) No. 1 (one) will wait at Muscat until 10 (ten) a. m. for No. 2 (two).

Form (1) makes the schedule time of the train named between the points mentioned, as much later as the time cited in the order, and any other train receiving the order is required to run with respect to this latter time, the same as before required to run with respect to the regular schedule time. The time in the order should be such as can be easily added to the schedule time.

Under Form (2) the train of superior right must not pass the designated point before the time given, unless the other train has arrived. The train of inferior right is required to run with respect to the

time specified, the same as before required to run with respect to the regular schedule time of the train of superior right.

### FORM F.—FOR SECTIONS OF REGULAR TRAINS.

— will carry signals — to — for —

#### EXAMPLES.

No. 1 (one) will carry signals Astrakhan to Cabul, for Eng. 85, (eight-five).

2d No. 1 (one) will carry signals London to Dover for Eng. 90 (ninety).

This may be modified as follows:

Engine 70 (seventy), 85 (eighty-five), and 90 (ninety), will run as 1st, 2d and 3d sections of No. 1 (one), London to Dover.

For annulling a section:

Eng. 85 (eighty-five) is annulled as second section of No. 1 (one) from Dover.

If there are other sections following add:

Following sections will change numbers accordingly.

The character of train for which signals are carried may be stated. Each section affected by the order must have copies, and must arrange signals accordingly.

### FORM G.—FOR ARRANGING A SCHEDULE FOR A SPECIAL TRAIN.

#### EXAMPLE.

Eng. — will run as special — train, leaving — on — on the following schedule, and will have the right of track over all trains.

Leave —.

Arrive —.

#### EXAMPLE.

1. Eng. 77 (seventy-seven) will run as special passenger train leaving Turin on Thursday, Feb. 17th (seventeenth), on the following schedule, and will have the right of track over all trains.

Leave Turin 11.30 p. m.

Pekin 12.25 a. m.

Canton 1.47 a. m.

Arrive Rome 2.22 a. m.

Example 1 may be varied by specifying particular trains over which the special shall or shall not have right of track, and any train over which the special train is thus given the right of track must clear its time as many minutes as such train is required to clear the schedule time of a first-class train.

#### EXAMPLE.

2. Eng. 75 (seventy-five) will run as special passenger train, leaving Geneva Thursday, Feb. 17th (seventeenth), with the right of a first class train east on the following schedule, which is a supplement to Time table No. 10 (ten). Leave Geneva 10 a. m.

Pekin 10.30 a. m. passing No. 12 (twelve).

Canton 11 a. m. meeting No. 7 (seven).

Arrive Athens 11.30 a. m.



Example 2 will be in each case a temporary supplement to the current Time-table, and the designation of meeting and passing points is to be taken as the same as such designation by full faced type on the Time-table, and the rules are to govern in the same way.

#### Form H.—Extra Trains.

—will run extra from — to —

##### EXAMPLE.

(a) *Eng. 99 (ninety-nine) will run extra from Berne to Giza.*

A train receiving an order to run extra is not required to guard against opposing extras, unless directed by order to do so, but must keep clear of all regular trains as required by rule.

A "work train" is an extra for which the above form will be used for a direct run in one direction. The authority to occupy a specified portion of the track, as an extra while working, will be given in the following form.

(b) *Eng. 202 (two, ninety-two) will work as an extra from 7 (seven) a. m. until 6 (six) p. m. between Berne and Turin.*

The working limits should be as short as practicable, to be changed as the progress of the work may require. The above may be combined, thus:

(c) *Eng. 202 (two, ninety-two) will run extra from Berne to Turin and work as an extra from 7 (seven) a. m. until 6 (six) p. m. between Turin and Rome.*

When an order has been given to "work" between designated points, no other extra must be authorized to run over that part of the track without provision for passing the work train.

When it is anticipated that a work train may be where it cannot be reached for meeting or passing orders, it may be directed to report for orders at a given time and place, or an order may be given that it shall clear the track for a designated extra, in the following form:

(d) *Work Train 202 (two, ninety-two) will keep clear of Extra 223, (two, ninety-three) East, between Antwerp and Brussels after 2:10 (two ten) p. m.*

In this case, extra 223 (two, twenty-three) must not pass either of the points named before 2:10 p. m., at which time the work train must be out of the way between those points.

When the movement of an extra train over the working limits cannot be anticipated by these or other orders to the work train, an order must be given to such extra, to protect itself against the work train in the following form:

(e) *Extra 76 (seventy-six) will protect itself against work train extra 95 (ninety-five) between Lyons and Paris.*

This may be added to the order to run extra.

A work train when met or overtaken by an extra must allow it to pass without unnecessary detention.

When the conditions are such that it may be considered desirable to require that work trains shall at all times protect themselves while on working

limits, this may be done under the following arrangements. To example (b) add the following words:

(f) *protect itself against all trains.*

A train receiving this order must, whether standing or moving, protect itself within the working limits (and in both directions on single track) against all trains, in the manner provided in Rule 99.

When an extra receives orders to run over working limits it must be advised that the work train is within those limits by adding to example (a) the words

(g) *Eng. 202 (two, ninety-two) is working as an extra between Berne and Turin.*

A train receiving this order must run expediting to find the work train within the limits named.

#### Form J.—Holding Order.

##### EXAMPLES.

(1) *Hold No. 2 (two).*

(2) *Hold all trains east.*

As any order for which "O. K." has been given and acknowledged, permits holding order for the train to which it is addressed, this form will only be used in special cases, to hold trains until orders can be given or for some other emergency. The reason for holding may be added, as "for orders."

This order is not to be used for holding a train, which orders are given to other trains against it, which are not at the same time given to it in duplicate. It must be respected by conductors and enginemen of trains thereby directed to be held as if addressed to them. Conductors when informed of the order must sign for it, and their signatures must be sent and "complete" obtained.

When a train has been so held it must not go until the order to hold is annulled, or an order is given in the form:

"—may go."

This must be addressed to the person or persons to whom the order to hold was addressed and must be delivered in the same manner.

#### Form K.—Annuling a Schedule Train.

—of — is annulled.

##### EXAMPLES.

(1) *No. 1 (one) of Feb. 20th (twenty-ninth) is annulled.*

(2) *No. 3 (three) due to leave Naples Saturday, Feb. 20th (twenty-eighth), is annulled.*

Adding "from Alaska" or "between Alaska and Hakfaaz," when appropriate.

This order takes away all rights of the train annulled and authorizes any train or person receiving it to use the track as if the train annulled were not on the time-table.

If a train is annulled to a point named, its rights beyond that point remain unaffected.

The Train Dispatcher may direct any operator to omit repeating back an order annulling a train until he has occasion to deliver it.

When a train has been annulled it must not be again restored under its original number by special order.

#### Form L.—Annuling or Superseding an Order.

"Order No. — is annulled."

This will be numbered, transmitted and signed for other orders.

If an order which is to be annulled has not been delivered to a train, the annulling order will be addressed to the operator, who will destroy all copies of the order annulled but his own, and write on that:

*Annulled by Order No. —*

An order superseding another may be given, adding "this supersedes order No. —," or adding "instead of —."

##### EXAMPLE.

*No. 1 (one) and No. 2 (two) will meet at Sparta, instead of at Thibbs.*

An order which includes more than one specified movement must not be superseded.

An order that has been annulled or superseded must not be again restored by special order under its original number.

In the address of an order annulling or superseding another order, the train first named must be that to which rights were given by the order annulled or superseded, and when the order is not transmitted simultaneously to all concerned, it must be sent to the point at which that train is to receive it and the required response first given, before the order is sent for other trains.

#### CONCERNING AIR-BRAKES.

1. In making up trains, all couplings must be united so that the brakes will apply throughout the whole train. The cocks in the brakepipe must all be opened (handles pointed down), except that on the rear of the last car, where hose coupling must be coupled to dummy coupling and cock closed (handle up).

In detaching engines or cars, the couplings must invariably be parted by hand (and not pulled apart); the cocks in the main brake-pipes must always be closed before separating the couplings, to prevent application of the brakes. Before detaching the engine or any cars, the brakes must be fully released on the whole train.

In moving cars when air brakes are not being used, hose couplings must be coupled to dummy couplings. 2. For the automatic brake the handle of the four-way cock must be turned horizontally; if turned down, it will be changed to the simple air-brake; if turned midway between these two positions, it will cut the brake out, and should be so turned when desirable to have the brakes out of use on any particular car.

3. Car inspectors will, in cold weather, frequently drain triple valve, and see that brake cylinders are cleaned and oiled at least once in three months, and

oftener if necessary, and date of some marked on cylinder with chalk. Conductor's valve must be kept tight and must be examined by car inspectors.

4. If the brakes are applied, when the engine is not attached to the train, or car, they can be released by opening the release cock.

5. All trainmen are required to familiarize themselves with the method of operating the air-brake, particularly as to releasing them when brakes stick, or are applied by bursting of pipe, hose, or otherwise, causing accidental stoppage of train.

Trainmen upon finding that the brakes have been applied, must at once aid in stopping the train by turning the handle of the brake valve toward the right so as to maintain the pressure in main reservoir; if the gauge shows that all the air has escaped, they will know that the pipe or hose has burst or that the conductor's valve has been opened and held open. If pressure is only reduced sufficiently to apply brakes, and reduction then ceases, he will know that conductor's valve has been opened long enough to cause stoppage of train and then closed. In this case he can easily release the brake in the usual way, on receiving signal from the conductor.

6. The conductor's valve must only be used in cases of emergency, when it should be held open to allow air to escape, until train is brought to a stand.

7. When brakes have been applied in such a manner that they cannot be released from the engine, the engineer should warn the trainmen by two short blasts of whistle, given three times (see Rule 50 a) and upon stoppage of train the rear brakeman will immediately go back the proper distance to protect the rear of the train, without attempting to release any brakes.

The conductor, after seeing that the rear of train has been protected, will release as many brakes as he can, beginning at the rear. The fireman will release as many as he can, beginning at the tender. The head brakeman will begin about one-third the distance from the engine and release brakes toward the rear of the train until he meets the conductor. As soon as the brakes are released the train may proceed, depending upon hand brakes in case of failure of air. All the brakes on an average train can be released in about one minute if each employee attends to his duties as designated herein.

8. When the train is brought to a full stop, it is the duty of brakemen to examine each car to see that every brake is released. If a brake is found applied which the engineer cannot release from the engine, it may be cut out, as per Rule 2. Brake on rear car in train should not be cut out when possible to avoid it.

9. In setting out cars, the air should be fully released and hand-brakes used.

10. Engineers will be held responsible for the proper workings of the air-brake, and must report on

arrival at terminal stations any failure or defect, and must know that they are in perfect working order before starting out on their runs.

The air-brake must be tested by applying and releasing the brake from the engine before starting from terminal stations, and at all other places where engines or cars have been detached or hose couplings separated. Brakemen will carefully watch such tests and report any failure.

11. Brakemen will carefully watch the action of brakes at all stops, and report sliding of wheels (if any) to engineer, who must govern himself accordingly.

12. The pump must be constantly run, but not faster than is necessary to maintain 70 pounds pressure for passenger, and 60 to 65 pounds for freight trains. Engineer will be held responsible for the sliding of wheels, and must in no case carry excessive pressure.

13. Engineers when applying the brakes must not use the full pressure of air except in cases of emergency.

For ordinary stops, air must be applied lightly by opening the valve and closing it gently when the pressure has been reduced from four to eight pounds on the gauge, and at a sufficient distance to enable them to stop the train without discomfort to passengers, sliding the wheels or injury to the machinery of the train. The brakes are fully applied when the pressure shown on the gauge has been reduced twenty pounds; any further reduction is a waste of air.

14. In making a stop, it is important to make as few applications of the brake as possible. If more than two are made, some of the brakes are likely to stick.

15. If Engineer feels that some of the brakes are not released, he should put his brake valve at lap and pump up ten or fifteen pounds more air in the main reservoir and throw it on the train, which will release all brakes.

16. In releasing brakes the handle of the brake valve must be moved quite against the stop and be kept there for ten or fifteen seconds, and then moved back against the intermediate stop, which is the feed position, and where it must remain while the train is running, excepting on down grades, when after using the brakes some distance, the pressure has been reduced; in order to restore the pressure quickly, the handle of the brake valve must be left in the releasing position; this gives a full opening from the main reservoir to the train.

If greater time for recharging is necessary, reduce the speed of the train.

17. When the grades will permit, the brakes on passenger trains should always be released before coming to a full stop, thereby avoiding the sudden

action of the cars, which is extremely annoying to passengers and injurious to cars.

18. The handles of the "pressure retaining valve," at the end of each car, must be turned horizontally before descending continuous, heavy grades. The valve in this position retains a pressure of ten pounds in brake cylinder, which partly controls train while brake is being released and recharged; on reaching the foot of the grade the handles must be turned down, allowing the pressure to escape freely. And they should always be kept in this position on short or slight grades and level track. Particular attention must be given to see that the handles of these valves are in proper position at all times.

19. When double headers are run, air brakes should be used by head engineer alone; second engineer should close stop cock in train pipe under his valve, or in the absence of this stop cock, he should place engineer's valve in the "lap" position in order to give forward engineer complete control of the brakes.

Second engineer will also keep his air pump working, and thus have pressure ready for any emergency, such as failure of pump on forward engine; in which case, forward engineer proceeds as second engineer would in above. The second engineer having assumed control of the brakes, should retain charge of same until the end of the trip, except in case of necessity which may again reverse the operation.

Where helpers are used only for a short distance, regular engineer of train will keep charge of and be responsible for proper handling of brakes.

20. When on mountain grades it should always be borne in mind that train must be kept well under control; descending at high speed should not be practiced with any train, as some part of the machinery may fail, and while practicable to control speed with hand brakes at eight to ten miles per hour, it may be impossible at twenty to thirty miles per hour to regain its control. No experiments should be made with the brakes when on mountain grades. The following essential points should be observed in holding a train of air brake cars while descending heavy grades.

1st. Train should be charged with maximum pressure before bringing brakes into use.

2nd. Force of brakes should be regulated so as to maintain a regular and steady speed of train, also make as long a distance as possible to each application of the brakes; by doing this the pressure is used economically and the pump is given more time to accumulate the necessary pressure for recharging.

3rd. Brake valve should be kept in releasing position while recharging, thereby giving the brakes the greatest advantage in recharging quickly.



4h. Use every effort to restore full amount of pressure consumed in previous application before making new application of brakes.

5h. Reduce pressure, as shown on gauge, not more than 15 to 20 pounds from one recharging to another, otherwise it will be difficult to replenish the full amount in so short a time.

21. Driver brakes should be applied gradually in order not to bring a too sudden strain on the brake rods and lever. Engine should not be reversed when driver brakes are set, as the effects would be to lock and slide the wheels.

22. When the number of air-brakes in train are insufficient, hand brakes next to and back of air-brakes should be used. If hand brakes at rear end of train and air-brakes at forward end are used, and air-brakes are released before first releasing hand brakes, the slack will run out, and train would probably break apart. By using all brakes at forward end slack will always remain together back of hand brakes, even if air brakes are released first.

23. Engineman should always have on engine, one extra hose for connection between engine and tender, and one for connection between tender and car. Defects in air brakes should be reported to Superintendent, by telegraph, giving number and initial of car and nature of defect.

Trainmen must watch train closely while in motion, and pay special attention to wheels sliding and

brakes sticking, and report such cases to engineman at once; they should also see that when pressure retaining valves are used, the handles are all turned down as soon as bottom of grade is reached. They should be on the alert at all times, and ready to respond quickly in case of any emergency which might arise that would necessitate the prompt use of the hand brake.

#### CONCERNING BAKER HEATERS.

To insure satisfactory results in the use of the heater, the following instructions must be strictly observed:

1. The heater should be kept half full of coal at all times. The coal should never be allowed to get below the top of worm. This will give about fifteen inches of fire.

2. The inside safety lid should never be opened except to build the fire or put in coal. (Never force the fire by opening inside safety lid.)

3. To increase the heat, open inside lower damper, and close upper damper.

4. To reduce the heat, close the lower damper and open the upper damper about two inches, or according to amount of heat required. With both dampers closed the car will not be too warm at any time, and by proper working of the lower and the upper damp-

ers, and watching the indicator, the car can be kept at any temperature desired.

5. Failure of the heater arises from neglect or mismanagement, generally from allowing fire to run too long without putting in coal, then filling them full and operating the drafts, producing a rapid fire, which instead of warming the car, stops the circulation, and creates gases, which are liable to explode.

6. It will be readily understood that with the large amount of piping in the cars, the circulation (which is principally caused by the weight of the column of water falling from the drum into the pipes, and the difference in the weight of a column of cold and hot water), must be necessarily slow, and that a forced fire will do no good, but will only cause the effect mentioned above.

7. In filling the heater pipes, be sure that the water contains all the salt it will hold in solution, and that no undissolved salt enters the drum. Open the combination cock on end of drum and pour in water until it runs freely from same. The water should always stand at the height of combination cock, which may be tried by opening the cock, but only when the fire is very low and no pressure on. Pipes should be warm all round before passengers enter the car.

8. Passenger cars having Baker heaters must be turned so that heater will be in forward end of car when practicable.

FRANK TRUMBULL, Receiver and General Manager,  
DENVER, COLORADO.

S. L. RAINEY,  
Superintendent,

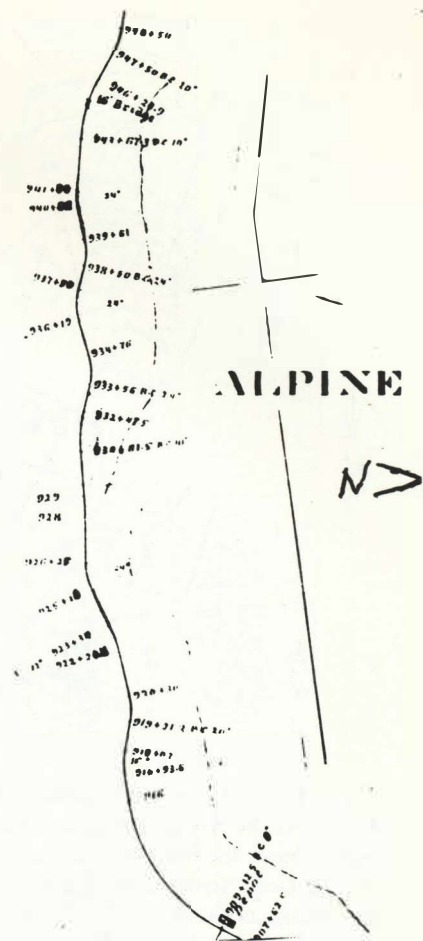
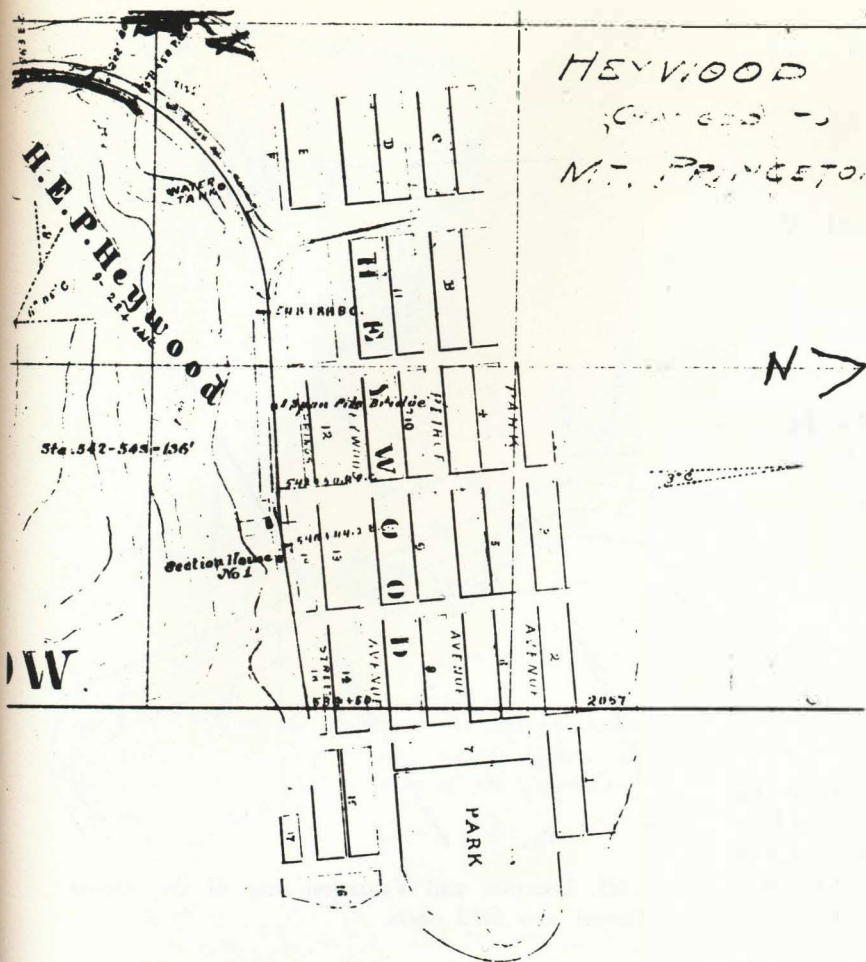
COMO, COLO.

H. F. PARKE,

Superintendent Transportation,  
DENVER, COLO.

T. F. DUNAWAY,

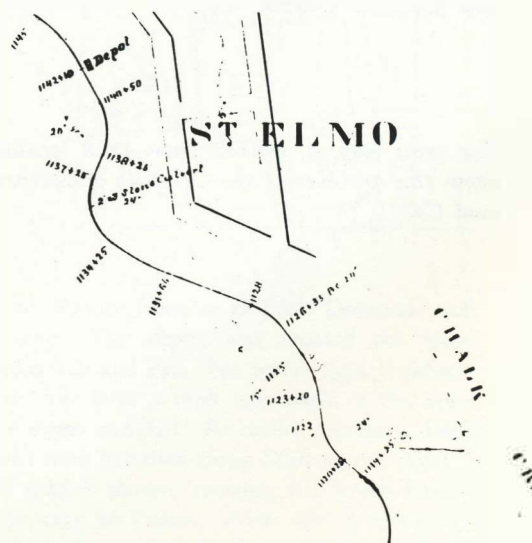
General Superintendent,  
DENVER, COLO.



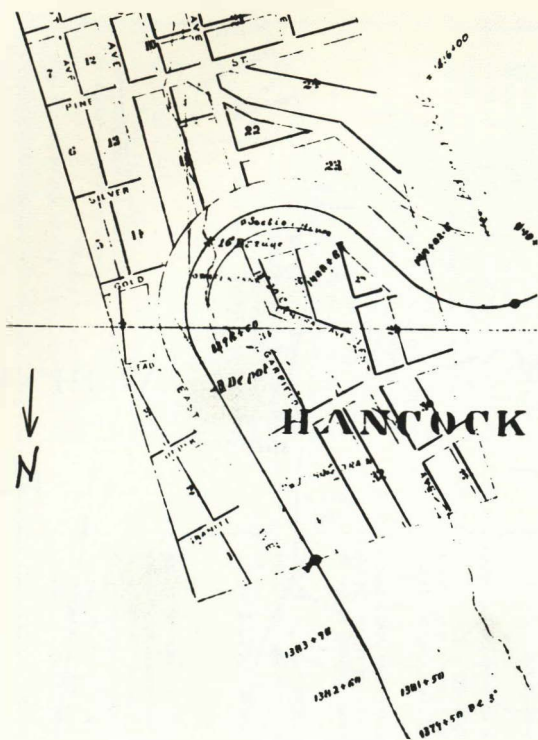
Heywood (sometimes called Hayward) later changed to Mt. Princeton Hot Springs, showing location of the DSP&P Wye and water tank. It was here that the fabulous but unprofitable Antero Hotel was built. The hot springs bathhouse still stands. *From the Archives of the Colorado and Southern Railway Co.*

Early plat of Alpine, now called Grizzly, in Middle Chalk Creek. *From the Archives of the Colorado & Southern Railway Co.*

Original 1880 Location and Valuation Map of the DSP&P grade and St. Elmo. At this date the depot was located on the north side of the tracks but was later moved across and built on the up-slope side. From this point a long siding was constructed north of the right of way. Two abandoned box cars still rest on this spur. No water tank is shown but one was later built just above the Grizzly Gulch bridge, receiving its water from the Grizzly Gulch stream. The old toll road passed through the heart of St. Elmo, along Main street. *From the Archives of the Colorado and Southern Railway Co.*

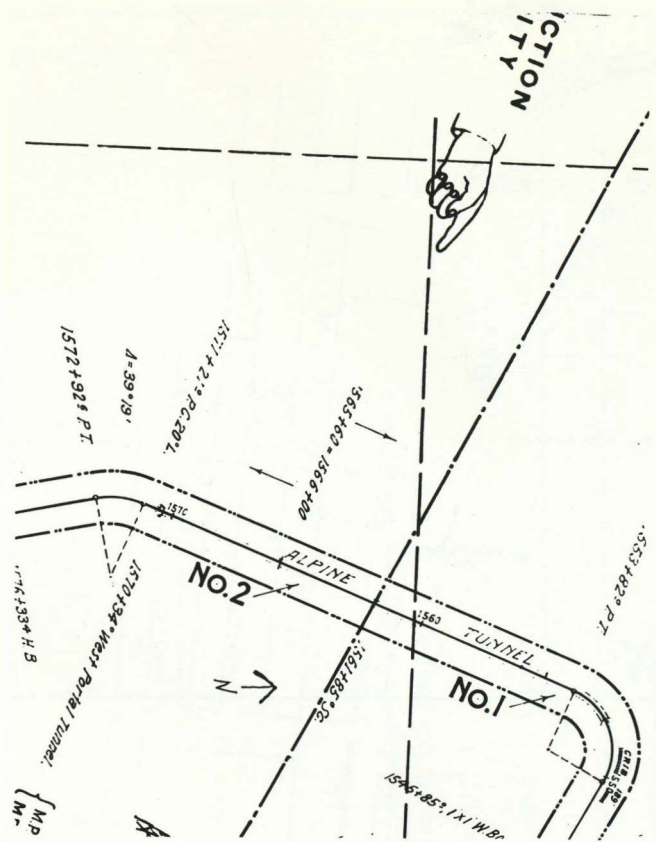




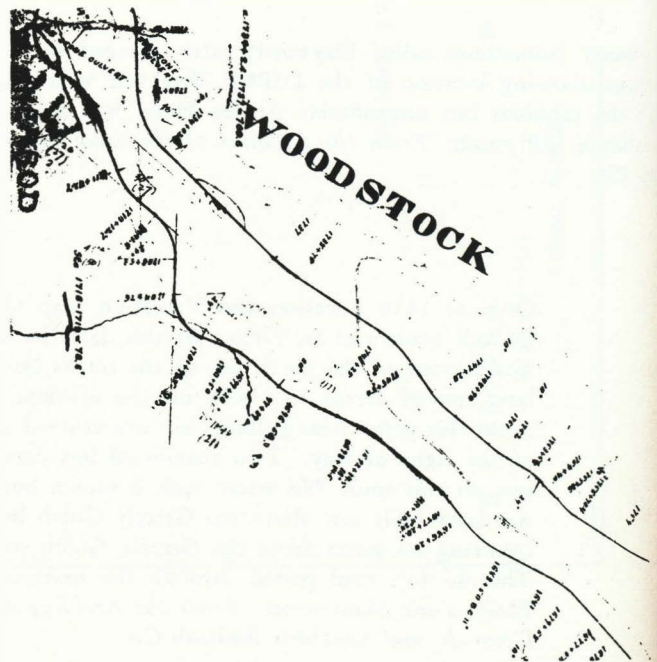


This 1880 Location and Valuation Map of the DSP &P shows the Alpine and South Park Toll Road looping through the heart of Hancock, joining East Avenue at Gold Street then descending to the banks of the South Fork of Chalk Creek, on its way to St. Elmo. At this date no Wye had been planned, but later one was built, extending up Central Avenue. The location of the Hancock depot never changed through the years, but the water tank was later rebuilt directly across the tracks from its original location. Sawmill Curve is the curve just to the right of Hancock. *From the Archives of the Colorado and Southern Railway Co.*

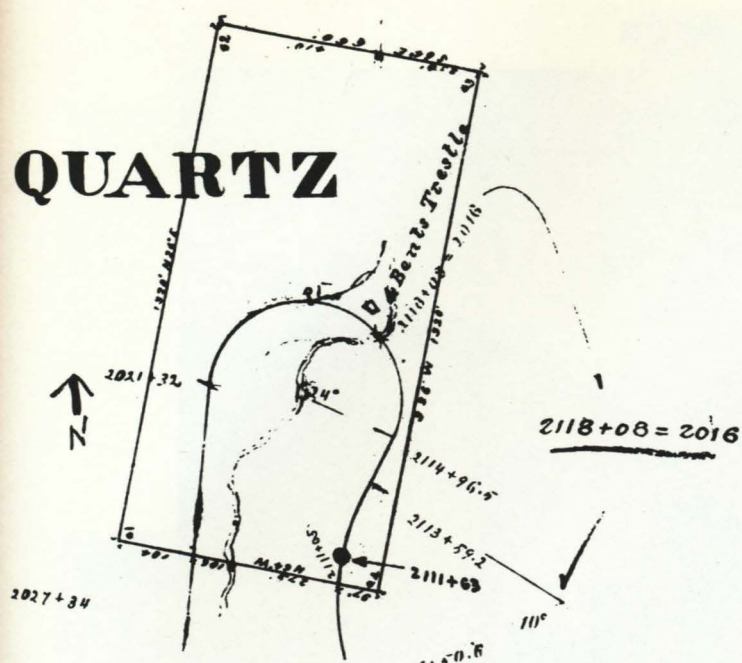
The great loop at Sherrod from 1880 location map. *From the Archives of the Colorado & Southern Railroad Co.*



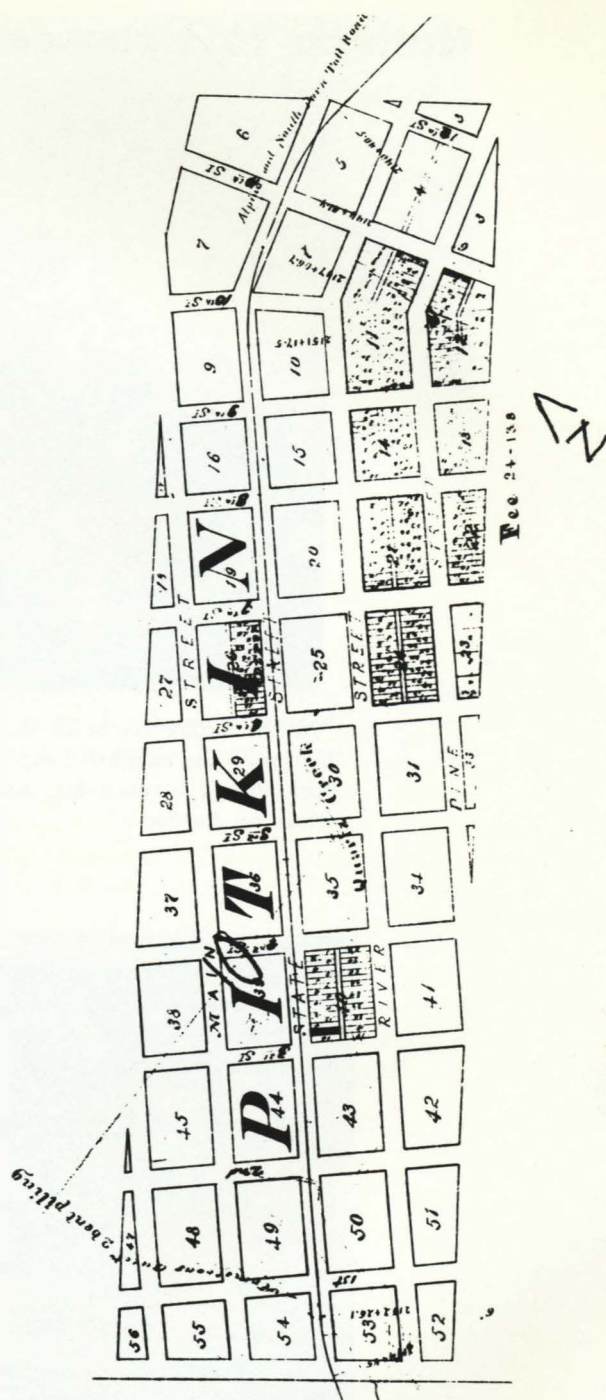
C.&S. Location and Valuation map of the Alpine Tunnel area field notes.



# QUARTZ



Marshalling point for shipments to and from the fast growing Tin Cup district was at Quartz on the DSP&P. From the Archives of the Colorado & Southern Railroad Co.



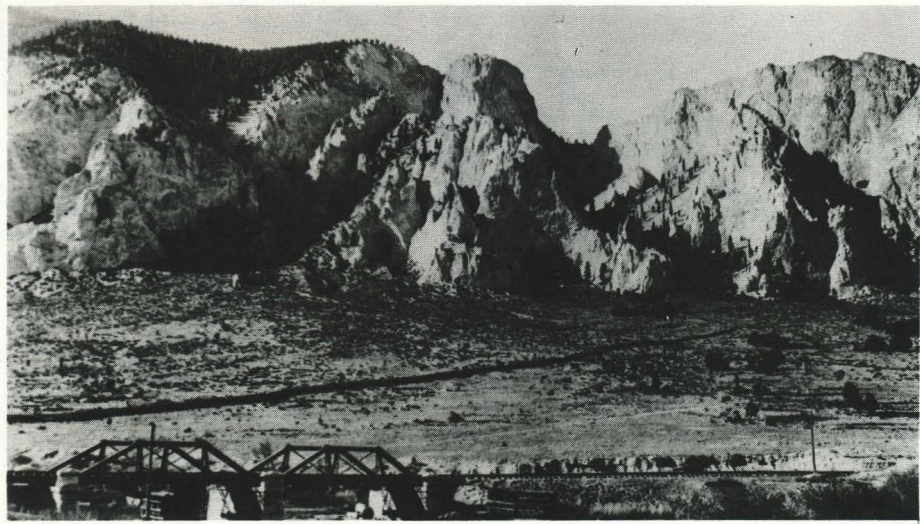
1880 plat of Pitkin from a DSP&P Location and Valuation map. The depot was located on State street between 6th and 7th. No water tank is shown on this map, but later a tank was built at the corner of State street and 3rd. As traffic increased, four sets of tracks were installed along State street. Again, the old toll road is shown, crossing the South Park's grade at the edge of Pitkin. From the Archives of the Colorado and Southern Railway Co.



## Nathrop to Hancock Area



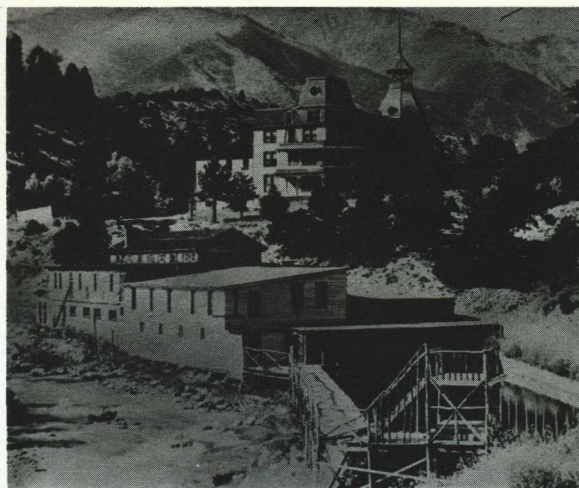
"As the locomotive heads for the gap in the mountains, the heart is filled with buoyancy and delightful expectation." On its way to Alpine Tunnel, the South Park slipped between Mt. Antero, on the left, and magnificent Mt. Princeton. *Photo by Author.*



"As the valley is left, the well-balasted track seems in the shadow of the mountains. It leads by cozy nooks and castled hills and miniature valleys." The Chalk Rocks in lower Chalk Creek. *Wm. H. Jackson photo, State Historical Society of Colorado.*



Mt. Princeton Hot Springs and the 100-room Antero Hotel in background, constructed prior to 1880. Louisa Ward Arps in *Chalk Creek, Colorado* states that the South Park paid \$3,000 for a right of way through the grounds, in 1880. The hotel, an unsuccessful business venture, was torn down in 1950. Stone work about the grounds still stands and the stone foundation of the hotel is still firm and solid. *Courtesy Evelyn Calder.*



The luxurious old Antero Hotel is long gone, but the Mt. Princeton Hot Springs bathhouse still stands, with only minor changes from its original design. *Photo by Author.*



"Chalk Creek has its charms and, as the train pants along its edge, miniature cata-racts and falls bring forth exclamations of delight from the passengers." Mixed train of one merchandise car and a day coach, just below the Cascades in lower Chalk Creek. About 1885. *W. H. Jackson photo, Denver Public Library Western Collection.*





"Civilization has been left outside and man feels that he has become the guest of nature." Chalk Creek, several miles below St. Elmo, in the mid-1880's. *W. H. Jackson photo, Courtesy Violet Squires Howard.*

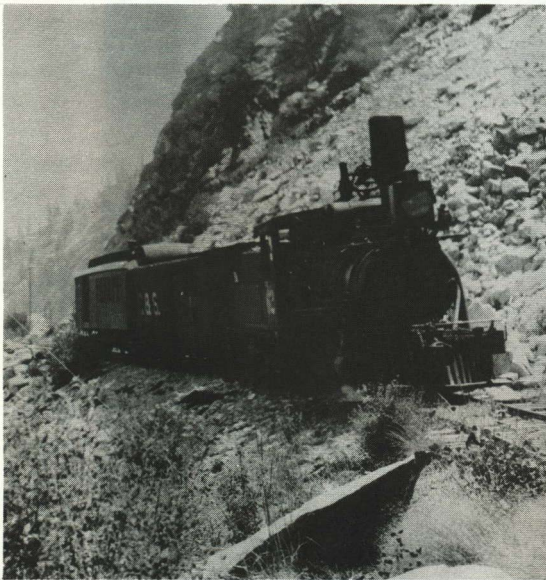


Mixed train, on the drawbar of engine No. 3, drifts downgrade on lovely Chalk Creek, bound for Buena Vista. The old South Park right of way is now a good highway. *Wm. H. Jackson photo, State Historical Society of Colorado.*





"The train climbs by curves and angles and sometimes, it seems, almost straight up the mountain." — Hayward. Mixed train in lower Chalk Creek in the 1880's. *Wm. H. Jackson Photo, courtesy Violet Squires Howard.*

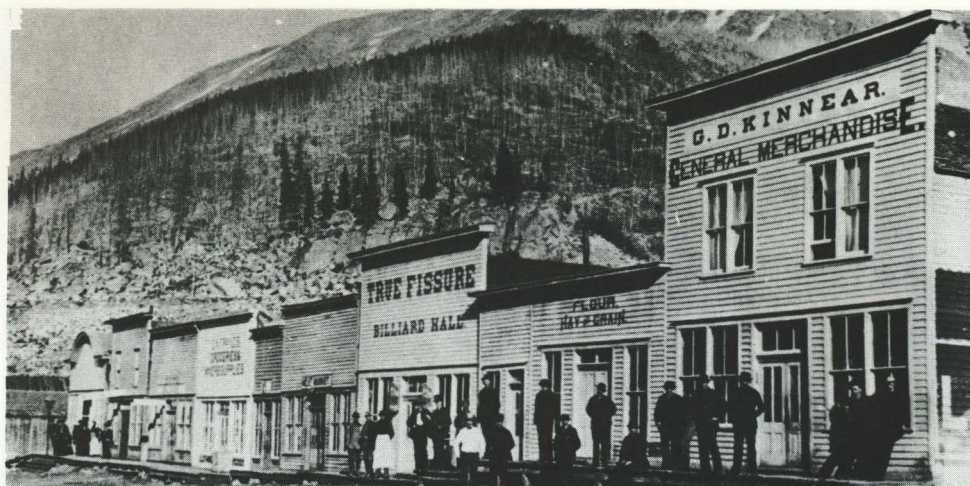


In the twilight of the South Park's glorious life, when telegraph poles no longer stood straight, when weeds grew between the rails, and the picturesque diamond stack had given way to the straight stack, C.&S. engine No. 62 pounded its weary way up Chalk Creek with one merchandise car and a combo on its drawbar. *Courtesy Tom Miller.*



The Stark family dominated life in St. Elmo for more than eight decades, acquiring ownership of more than half the town's real estate. Following the death of Annabelle Stark Ward, last survivor of the immediate Stark family, the estate was awarded to Mrs. Marie Skogsberg by the wills of Tony and Annabelle Stark. Building materials have been shipped to St. Elmo, for the rehabilitation of Stark property, including refurbishment of the Stark Store and Hotel Comfort, shown here as they appeared in late 1963. *Photo by Author.*



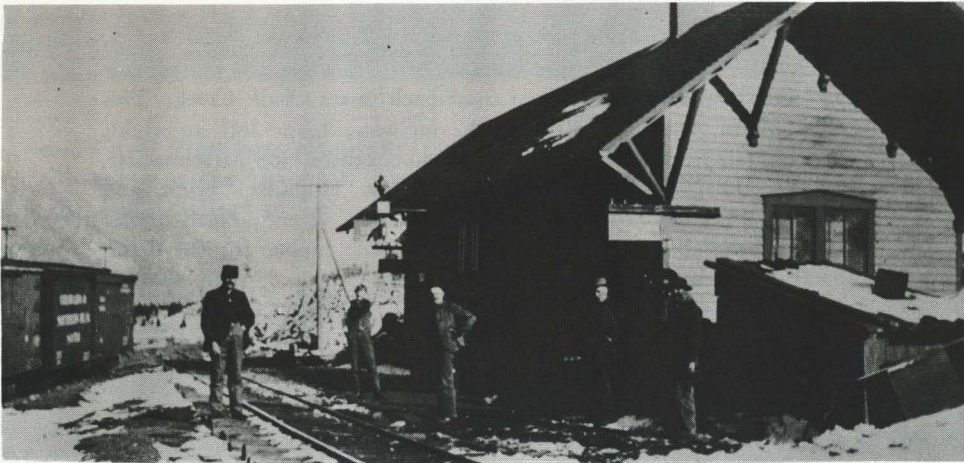


"Upon completion of the South Park R. R. tourists can come here by the thousands, and feeling the invigorating influence of the climate and breathing air that stimulates every nerve and imparts fresh vigor to the most debilitated, will leave the smoky cities and come to dwell in nature's garden spot." *Chaffee County News*, January 1, 1881. Two views of St. Elmo's main street and an early photo of the historic Stark General Store and Hotel Comfort. As this is written St. Elmo may well be on the threshold of developments that may yet prove the *News* a true prophet. *Photos courtesy Tom Miller.*





Tony and Roy Stark pose before the South Park's St. Elmo station and telegraph office, which was located on the hillside above St. Elmo, about a quarter of a mile via the hack road, which still exists. *Courtesy Tom Miller.*



The station master joined these four travelers as they awaited an eastbound train at the St. Elmo station. Grade for spur, at left, still exists, and to this day, two wheelless, windowless, doorless box cars remain on it. *Courtesy Tom Miller.*

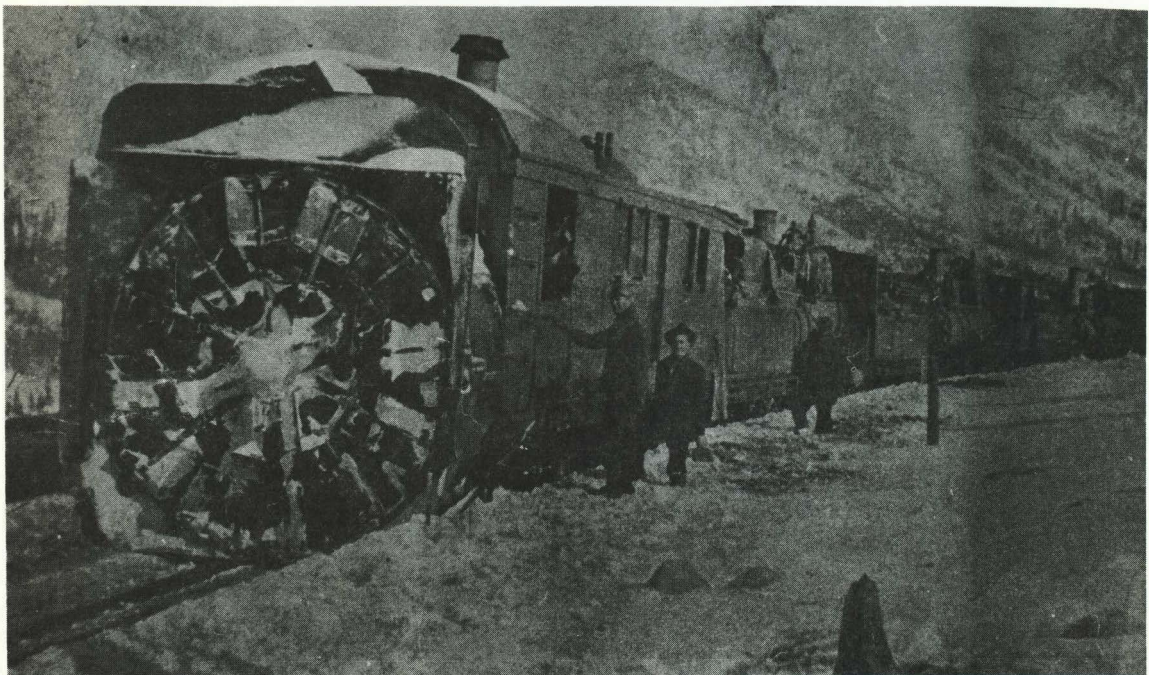


On the St. Elmo siding, just below the road to Hancock, rest these two old box cars of the South Park. The lettering is dim and the roofs have fallen in, as they slowly decay. When they are gone, another page from the past will be silently turned. *Photo by Author.*





In an era not yet introduced to the joys of "Freeways" and carbon monoxide, it was a thrilling adventure to tie a hand-car to the rear of a tunnel-bound train and then coast back down Chalk Creek. This historic photo, made by Roy Stark, includes, from left to right, Grandma Stark, Annabelle Stark Ward, unidentified, Joe Perschbacher, Oscar Perschbacher, unidentified, and a Mr. Hopkins. Hunt and Draper, in *To Colorado's Restless Ghosts* said, "Friends recall young Miss Annabelle about 1906 when she was a telegrapher for the C.&S. Railway and where her fingers flew over the key and when she was 'the most beautiful girl in Chaffee county.'" *Courtesy Tom Miller.*

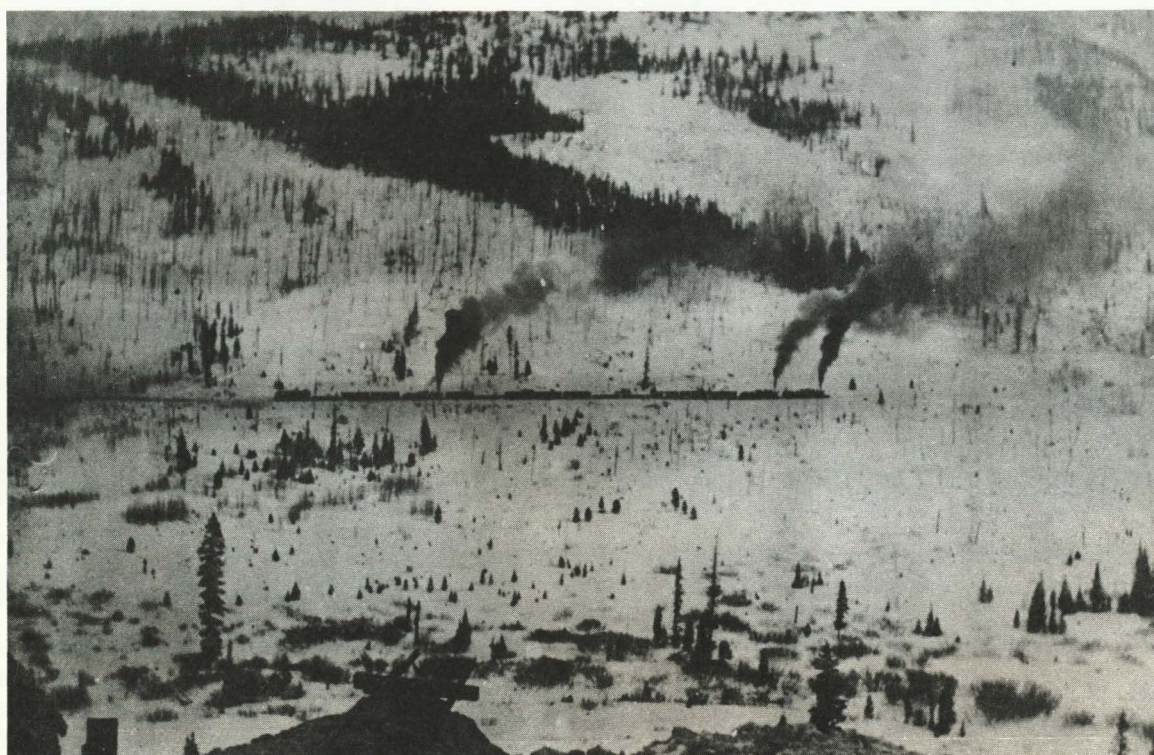


Rotary pilot Ed Annis (with arm outstretched) and engineer Jinks Thomas have just opened the line for St. Elmo to Hancock and prepare to work upgrade to Alpine Tunnel. *Courtesy Chaffee County Republican.*



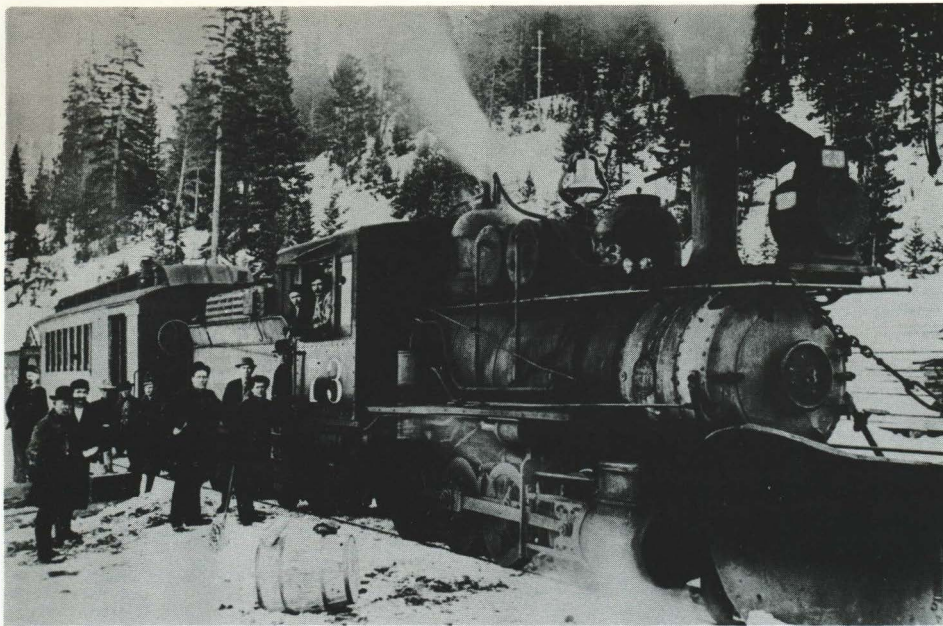


"For a few years Chalk Creek was practically the road to everywhere." —Louisa Ward Arps. South Park rails gently curve as they leave St. Elmo, dimly seen in the valley in the background. Slatted snow fence reduced the drifting of snow. *William O. Wright Collection, State Historical Society of Colorado.*

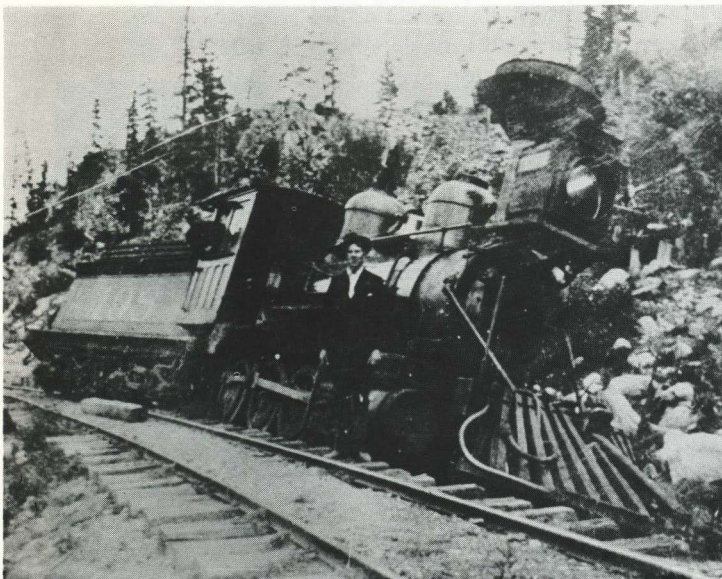


Provocative winter scene in Chalk Creek, taken from the tunnel of the Gold Cup mine, above St. Elmo. Three little engines power this 14-car drag. "The sturdy locomotives climb on strands of steel, weaving . . . visions most bewilderingly picturesque!" *Courtesy Tom Miller.*





Rarely is the symmetry of line and design so perfectly captured as in this photo of engine No. 73. Tom Moore is the engineer. On the steps is Charlie Thomas, and holding the hand rail is Joe Delany. The 73 was one of the latest model engines used by the C.&S. *Courtesy Tom Miller.*

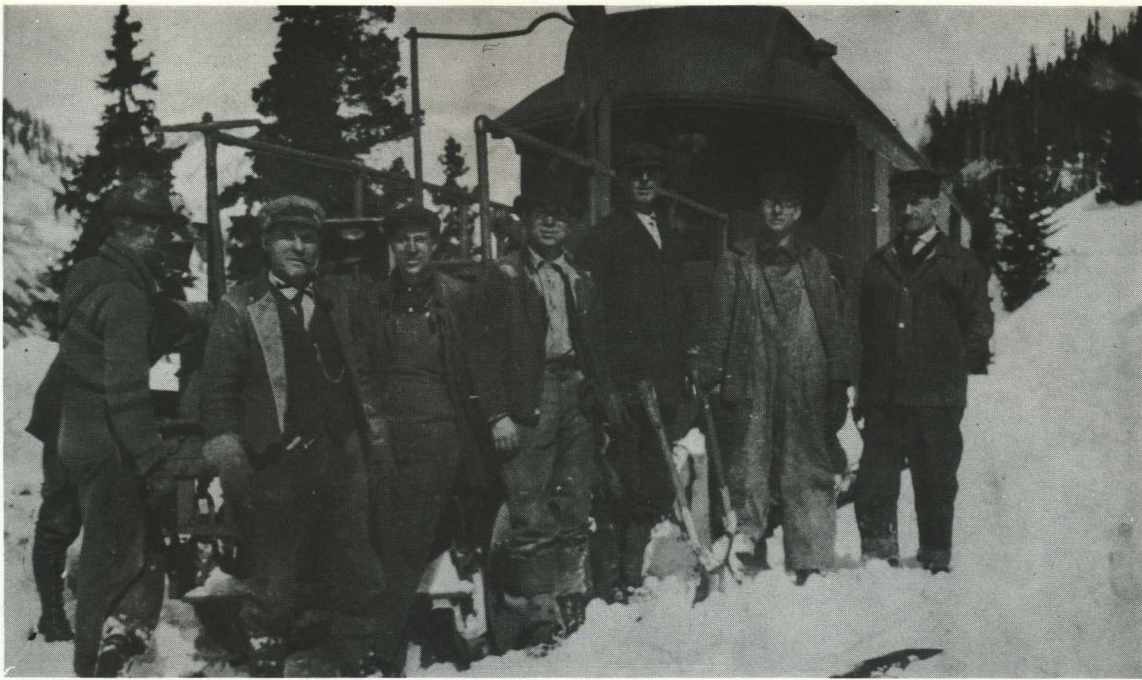


Denver, Leadville and Gunnison engine No. 198 derailed between St. Elmo and Alpine Tunnel in 1895. No. 198 was built by Cooke and weighed about twenty-eight tons. *Courtesy Violet Squires Howard.*



Colorado & Southern crummy, derailed in upper Chalk Creek. Rule No. 230 read, "When cars leave the track they must not be turned over, thrown down embankments, or otherwise damaged, merely to get them out of the way." *Courtesy John Ott.*



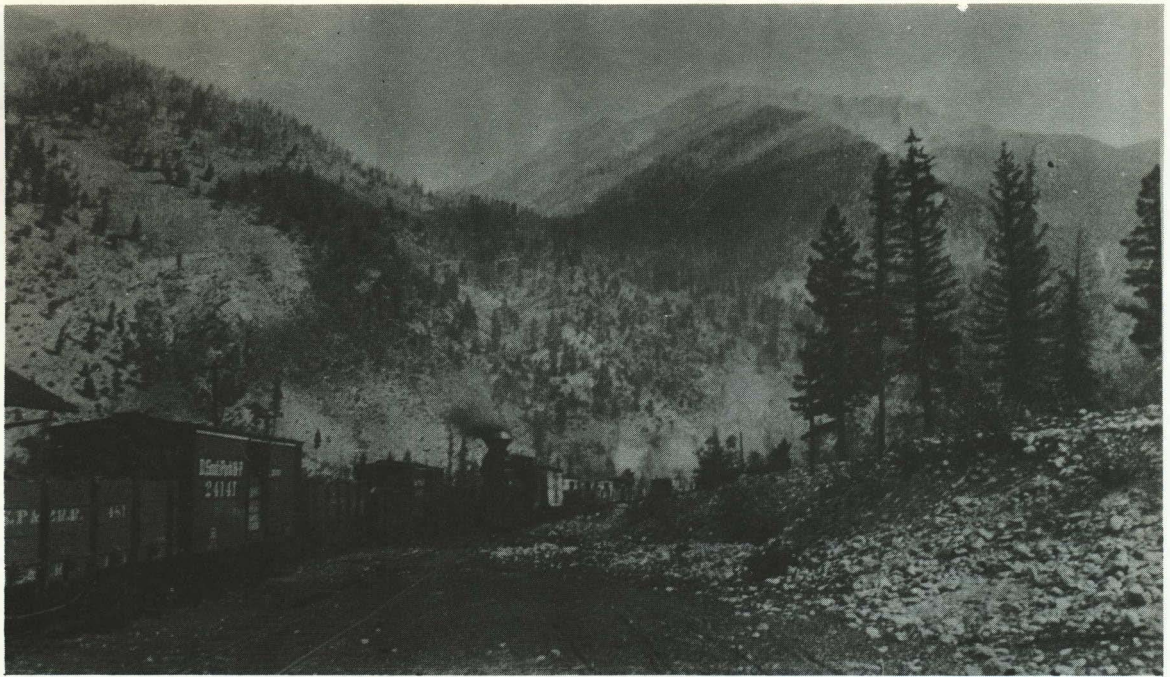


C.&S. crew battling snow above St. Elmo in 1922. Joseph Perschbacher (second from left with pipe) now lives at Buena Vista. Oscar Perschbacher (second from right) now lives in Leadville. Tool in foreground was called a "hand-powered rotary." *Courtesy Joseph Perschbacher.*



Colorado & Southern crews fighting snow to get their train downgrade, on the run between St. Elmo and Schwanders. Each winter the Gunnison Division was well supplied with snow! *Courtesy Joseph Perschbacher.*

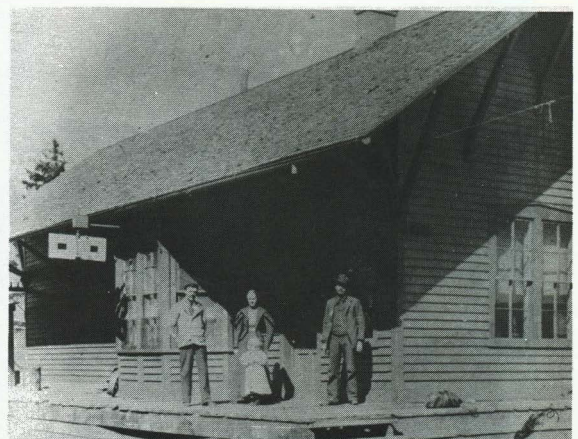




Two long freights pass at Romley in 1888. Two gondolas appear heavily used while box cars seem quite new. So universally was the railroad known as the "South Park" that lettering on the box cars reads, "D. South Park & P." Train on the right is westbound for Alpine Tunnel. *M. E. Chase photo, State Historical Society of Colorado.*



"We lost an engine one afternoon at the Romley turntable. Those turntables had no power . . . we would swing the engines around by hand."—Joe Perschbacher. Clearly visible at left is the big handle used to swing the Romley turntable. *Courtesy Tom Miller.*



Romley station in the 1880's when travel on the South Park was brisk. C. H. Norris, telegrapher, with wife and daughter at left. Miner awaits train. Grade in front of station was full four per cent. *Courtesy Violet Squires Howard.*





Siding to serve the Rarias Warrior mine near Romley. Chalk Creek mines, particularly the Murphy group, provided the South Park with huge amounts of business. Timber for ties was cut wherever needed with reckless disregard of good forestry practices. *Courtesy Tom Miller.*

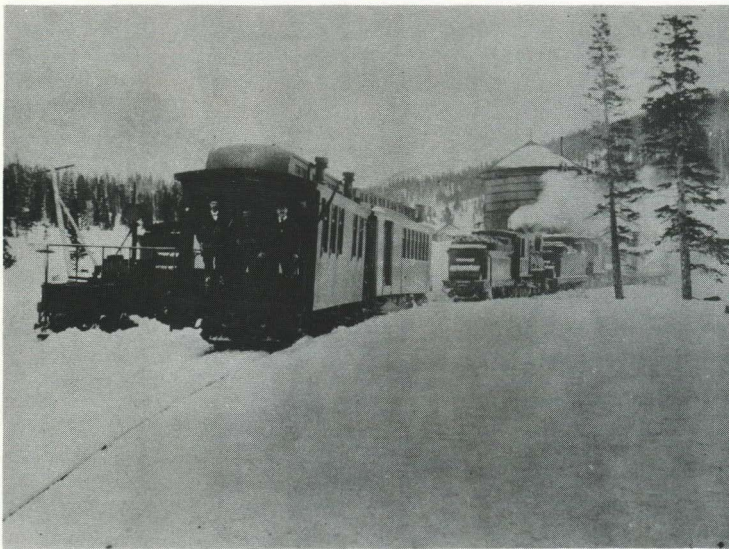


The town of Hancock was located on land known as the Hancock Placer claim, which was deeded to the Hancock Town Company on August 2, 1881. When this photo was made Hancock was still growing. "The din of labor . . . gave one some idea of the magic transformation of a primitive wilderness to a thriving railroad town in the Rocky Mountains." *Wm. H. Jackson photo, State Historical Society of Colorado.*

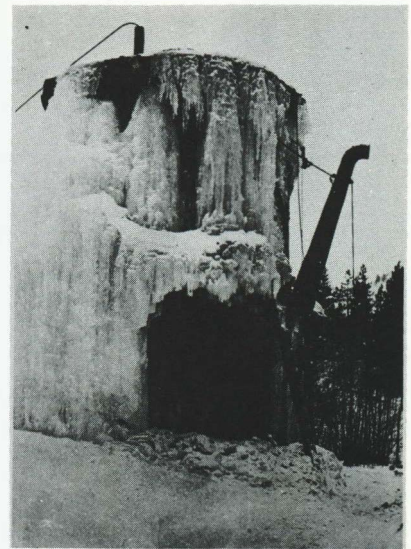




Two diamond-stacked locomotives head up this long drag of empties on the siding at Hancock, in 1888, ready to tackle the long pull to Alpine Tunnel. Gondolas are probably billed to Baldwin for coal. *M. E. Chase photo, State Historical Society of Colorado.*

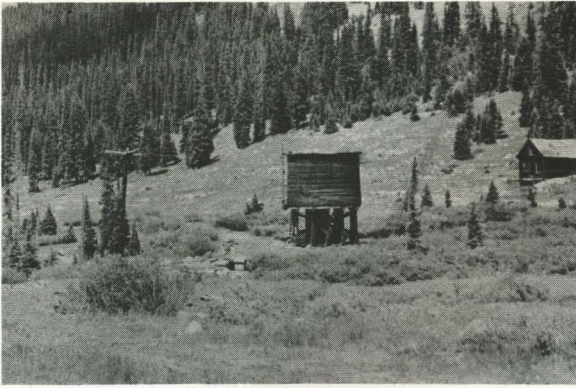


Office car 025 and a combination car wait on the main line while their three locomotives take water at Timberline tank in Hancock. At left is a flanger. *Dr. C. H. Scott photo, courtesy Violet Squires Howard.*

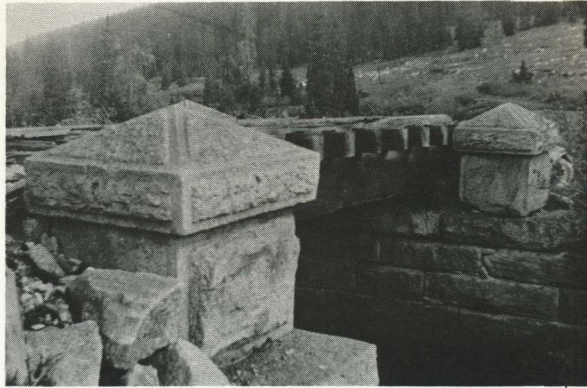


This water tank was located about one-half mile downgrade from the St. Elmo station. Cascades of ice give solid testimony of the severity of winter in these high altitudes. Taking water under these conditions was a miserable, disagreeable job. *Courtesy Tom Miller.*

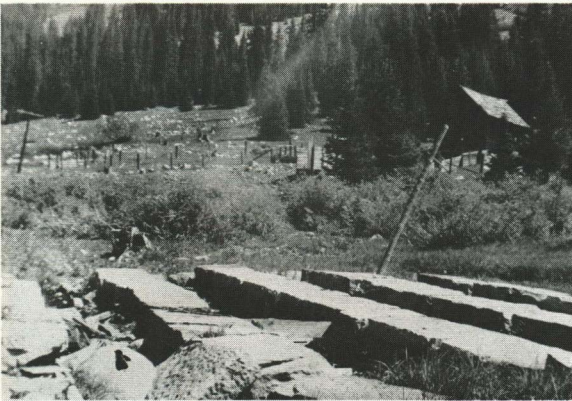




Only the building at far right still stands in Hancock. The water tank and the telegraph poles are gone. This view looks downgrade toward Romley and St. Elmo. The Hancock tank was known as Timberline Tank during operations. *Courtesy Mrs. Evelyn Calder.*



This trestle bridges Chalk Creek at Hancock. It is now floored with lumber for automobiles and the beautifully fashioned, hand-cut capstones lie scattered about, partially covered with grass and weeds. *Muriel Sibell Wolle photo.*



Only the foundation stones remain of Timberline Tank at Hancock. In fact, the building in the background is the only remaining structure of this once-thriving town. *Muriel Sibell Wolle photo.*



"The song of the miner . . . and the hum of civilization grew less. No more the chain of commerce threaded through the darkened opening high up in the rock-wall barrier. Enroute to Alpine, towns are passed without a human being in sight." Hancock in 1962! *Clarence E. Bennett photo.*



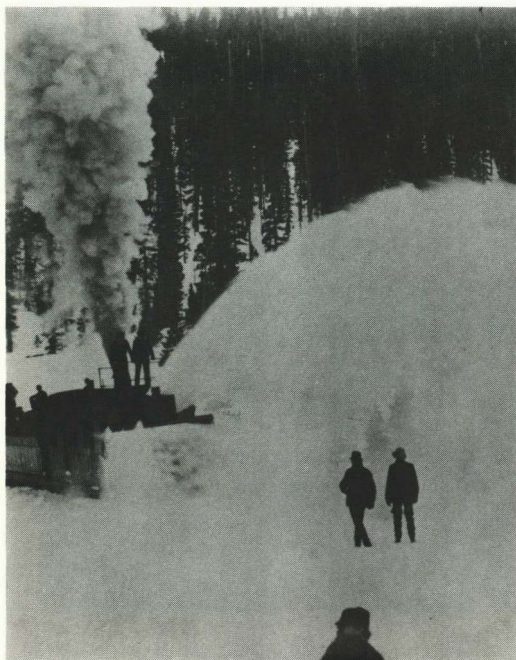
## Fighting Snow from Hancock to East Portal



The Jull Plow between Romley and Hancock during the snow plow trials, April, 1890. The auger machine was too heavy and cumbersome for the light iron and sharp curves of the South Park. "... even her friends had to admit 'she's not quite right.'" *Wm. H. Jackson photo, Archives Union Pacific R.R.*



The Jull Plow on Sawmill Curve at Hancock during the snow plow trials, April 18 and 19, 1890. At this point the machine was not properly discharging the snow and had been stopped for adjustments. *Wm. H. Jackson photo, Archives Union Pacific R.R.*

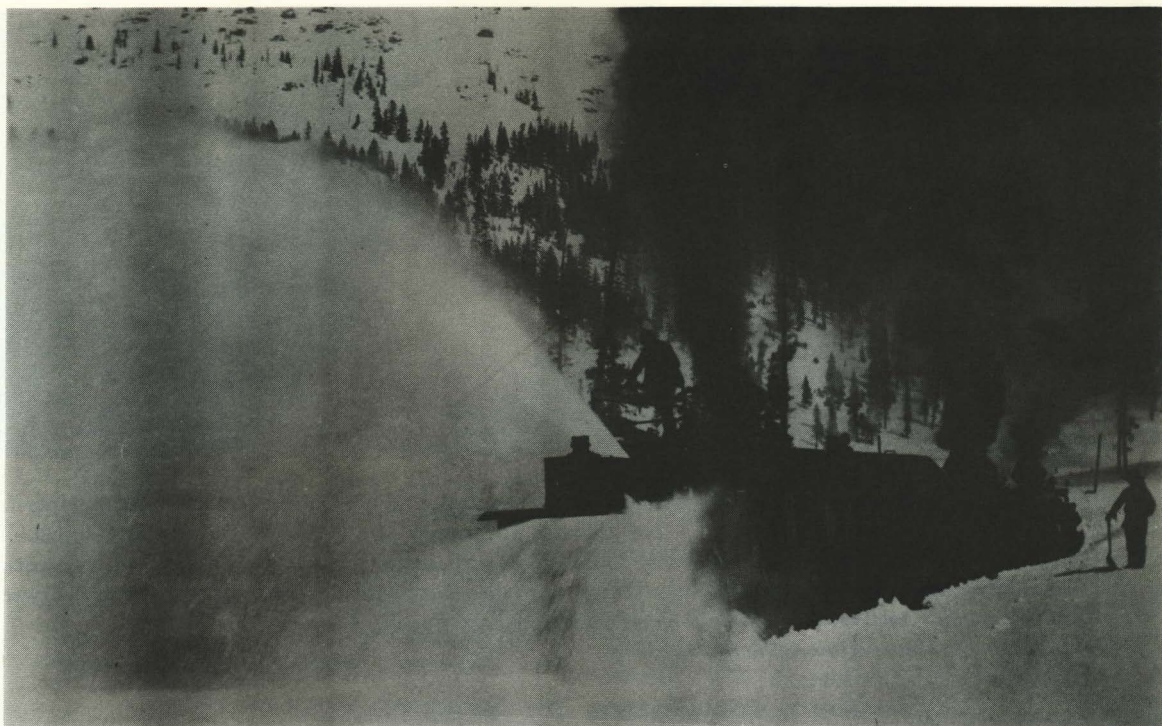


"The hot engines steamed and snorted and banged away at the great sea of snow that grew deeper and harder as we climbed." — Warman. The actual trials started several miles below Hancock and worked through the town and on to Alpine Tunnel. April, 1890. *Wm. H. Jackson photo, Archives Union Pacific R.R.*

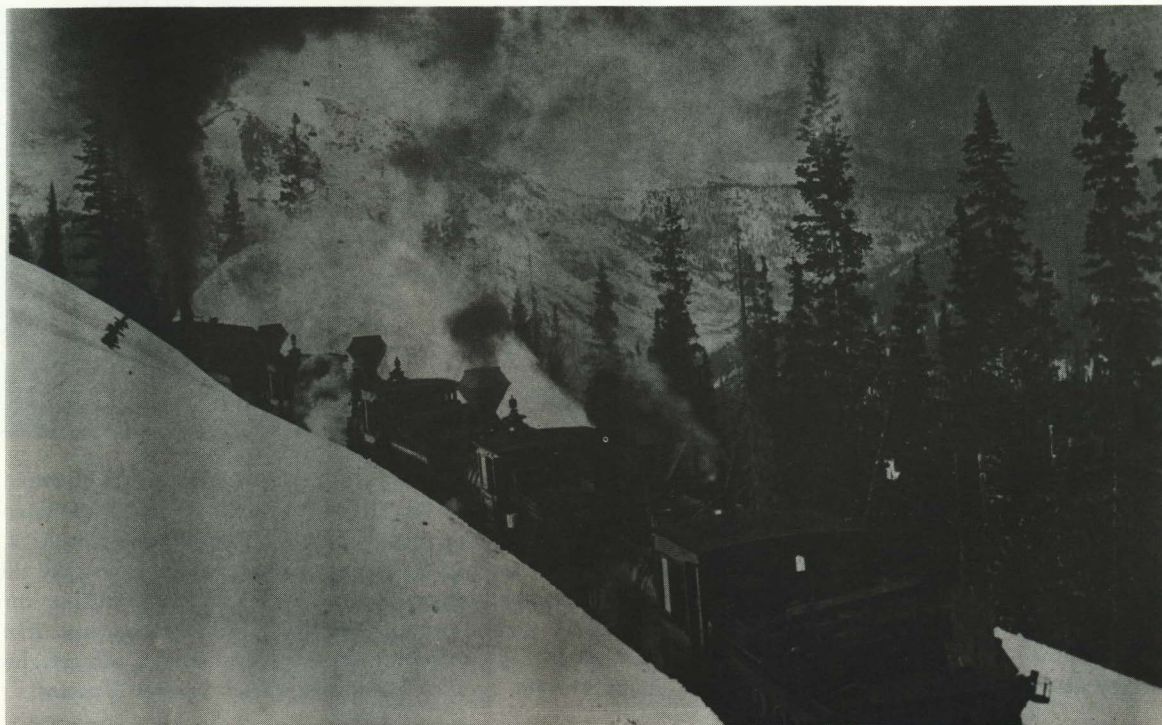


"The hungry machine gathered up the light drifts . . . and breathed them out over the tops of the telegraph poles." — Warman. A few of Hancock's buildings show in the background. April 18, 1890. *Wm. H. Jackson photo, Archives Union Pacific R.R.*





"The mad locomotives snorted, puffed and panted, sending an endless stream of black smoke to the very heavens and screamed at one another when about to stall." — Warman. Two locomotives and a rotary making eight miles per hour after Jull plow had stalled with four locomotives. *Wm. H. Jackson photo, Archives Union Pacific R.R.*

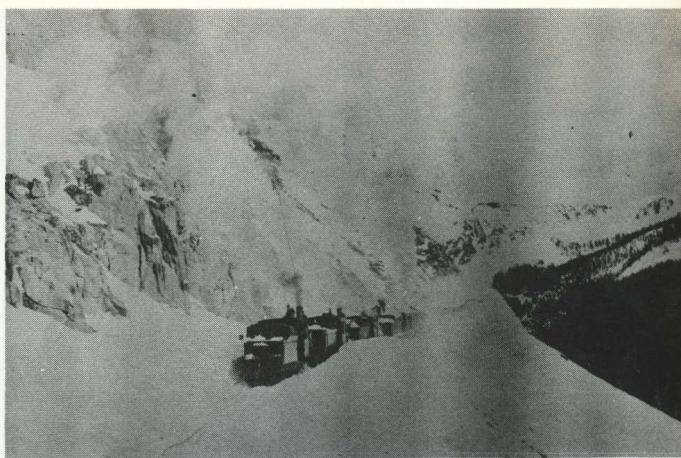


"On and on, up and up, the monster moguls pushed the plough. Higher and higher rose the black smoke; and when the smoke and snow came between the spectators and the sun . . . the effect was marvelously beautiful." — Warman. About midway between Hancock and Atlantic! *Wm. H. Jackson photo, Archives Union Pacific R.R.*

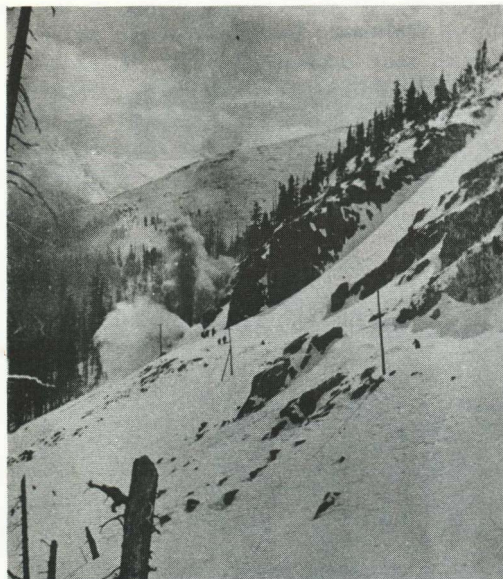




"The commander gave a signal to back up; and with faces wreathed in smiles and with their machines covered with cinders, snow, and glory . . . the rotary was the victor." — Warman. Snow plow trials, 1890. Wm. H. Jackson photo, Archives Union Pacific R.R.



High on the mountain above Tunnel Gulch, four engines labor to push the rotary the final mile to Alpine Tunnel. It is doubtful if any other stretch of railroad in the entire country was laden with so much snow as the stretch between Hancock and East Portal. *Courtesy Tom Miller.*



Heavy black smoke from the engines and the rotary darkens the whole sky over Tunnel Gulch as they battle their way upgrade, just below Atlantic. ". . . occasionally the snow thrown from the plow would start a miniature snow slide down the steep side of the mountain." — George W. Champion. *Courtesy George W. Champion.*



Denver, Leadville & Gunnison rotary at east portal of Alpine Tunnel in March, 1897. At left is S. L. Rainey, superintendent. Next to him, Sam Churchill, conductor. Charles C. Squires leans against the rotary's tank. Attempts to take this rotary through Alpine Tunnel failed as the machine tore chunks of wood from the timbering. The rotary was standard gauge, mounted on narrow gauge trucks. It weighed about 119,400 pounds. *Courtesy Violet Squires Howard.*



## Hancock to East Portal Area



"The mountain tops reach up to meet storms face to face. Screaming winds reach fantastic velocities." — Brandon. This 1879 photo looks east, down Tunnel Gulch toward the naked heights of the Continental Divide. *Wm. H. Jackson photo, State Historical Society of Colorado.*



"Fresh dirt was moved in January of 1880." Men, mules and carts working on the cut, leading to the east portal of Alpine Tunnel. Two men at left, unidentified, appear to be officials. *Wm. H. Jackson photo, State Historical Society of Colorado.*



"Between the tunnel and Hancock were the worst snow blockades I have ever heard of. It wasn't railroading in the winter, it was just fighting snow." — Rupley. Butterfly plow bucking snow just out of Hancock. At left, Joe Delaney, engineer; at right, Brownie Anderson. *Courtesy Tom Miller.*

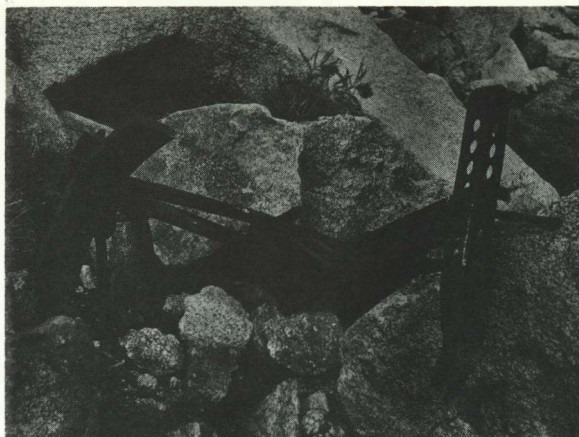


"C & S Ry. near Alpine Tunnel Colorado" is the typewritten over-print on this picture post card, originally sold at the Stark Bros. store in St. Elmo, now a collector's item. *Courtesy John Ott.*





This wreck occurred just above Hancock, killing Chauncy Burnside, a brakeman, who was pinned to the train by an iron bar that ran through both legs. Foreman of the wrecking crew, with hand raised, is Pat Gibony. Also in the picture are Guy Hallock and Ralph DeLeo. *Courtesy Violet Squires Howard.*



Mute evidence of a train wreck between Atlantic and Hancock! About a mile below east portal are these bits of iron, rusting slowly in the Alpine fastness. We recovered and brought back an old brake shoe from this wreck. *Charles Webb photo.*



"We had been told it would be impossible to drive our Jeep over the rock-strewn right of way. It turned out to be quite a ride!" Along the way we found several old wooden culverts, still hosting streams of water coming down from the Continental Divide. *Charles Webb photo.*





"Up through this scene of stern and rugged grandeur, the train winds its rapid course. From these great cliffs, upon whose rocky sides the solid road-bed has been hewn as a pathway for the train, a view of unparalleled splendor greets the eye." — W. R. Thomas. Grade between Hancock and Atlantic. *Photo by Author.*

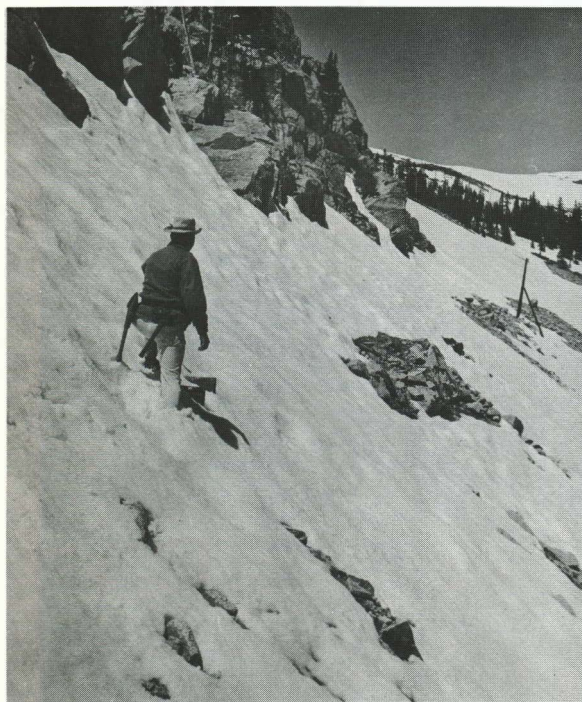


"Unsurmountable obstacles and discouraging difficulties wearied the hands breaking the silence . . . and gradually the scenes of activity ceased." — Chaffee County Republican. Hancock lies at the foot of the distant range, Tunnel Gulch at left. Above, at right, the Continental Divide. *Photo by Author.*





"Today only rock-strewn and gullied terraces mark the old road bed that once carried the gaudiest little passenger trains in the gaudy Rockies." — Lavender. *Photo by Author.*



"Rocks can now slide and trees may fall,  
No wires or track there to repair,  
Deep cuts can now fill to the top,  
There's no one left up there to care."  
Chas. C. Squires

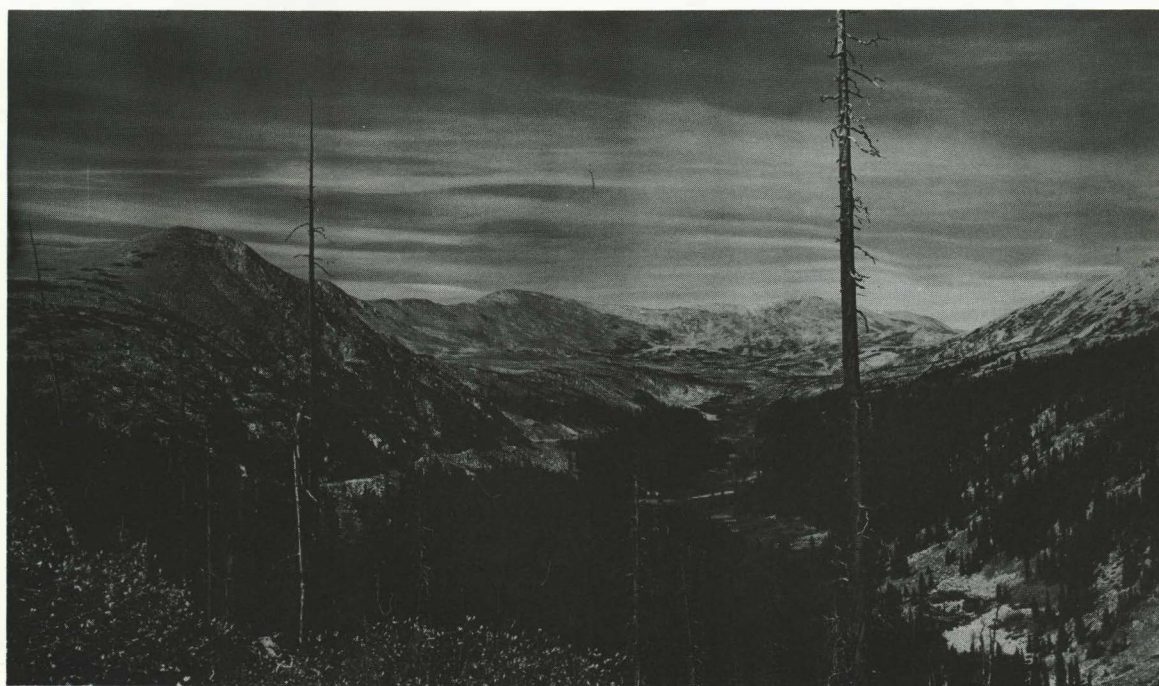


In mid-June of 1962 Charlie Webb and companion made the three-mile journey from Hancock to east portal. These photos vividly portray snow conditions along the old South Park grade. *Charles Webb photos.*





"Only the winds and snows and an occasional curiosity-seeker probe the rotting timbers that once protected train-loads of rich ores and Gunnison-bound fortune hunters." — Charles W. Mueller. Scene near East Portal, June, 1962. *Charles Webb photo.*



Looking west from the old Alpine & South Park Toll Road on Williams Pass. In the distance is the box-canon head of Tunnel Gulch. East portal of Alpine is the tiny white streak just below center of photo. Supply road for Alpine Tunnel ran up floor of Tunnel Gulch. Williams Pass is out of photo at the left. *Charles Webb photo.*





"Somewhere along the way the seasons clasp hands, for though it be summer in the valley, it is not summer here, only for these flowery tokens, sweetly defiant of nipping chill." East Portal is just beyond snowbank at center. *Photo by Author.*

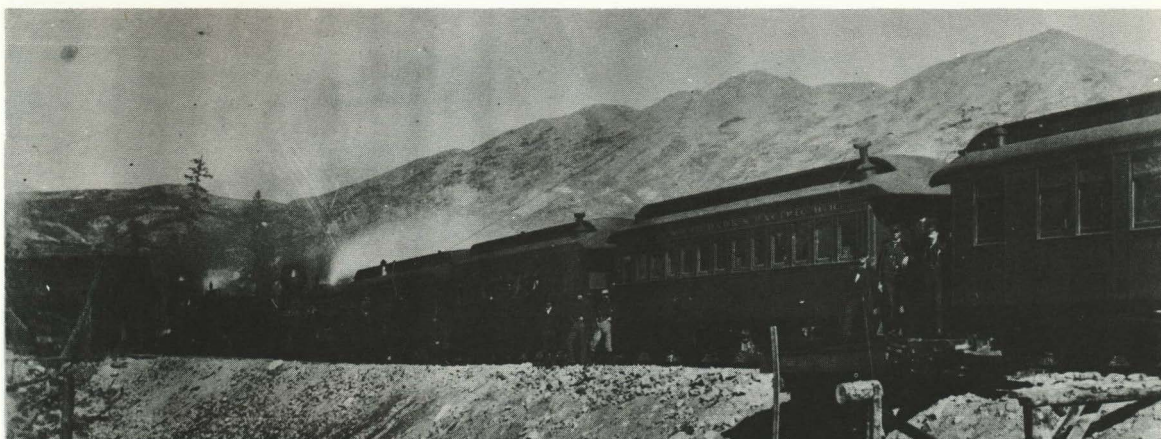


Serene summer scene, in 1888, of Alpine's east portal and Atlantic siding. Construction camp was beyond the tunnel. Supplies were brought up Tunnel Gulch, to the right. Tracks entered the bore by a 24° curve. *M. E. Chase photo, from William O. Wright Collection, State Historical Society of Colorado.*





Deep snows covered the "Main Range" on April 30, 1896, when this mixed Denver Leadville & Gunnison train paused at East Portal of Alpine Tunnel. No. 197, with its link and pin coupler, is shown elsewhere, at the Palisades. *Dr. Newton photo, Courtesy Francis Rizzari.*



Alpine's east portal was called Atlantic, doubtless because it was on the Atlantic ocean side of the Continental Divide. Crewmen and passengers, including a bearded miner, stare impassively as the camera records this appealing scene. *Denver Public Library Western Collection.*

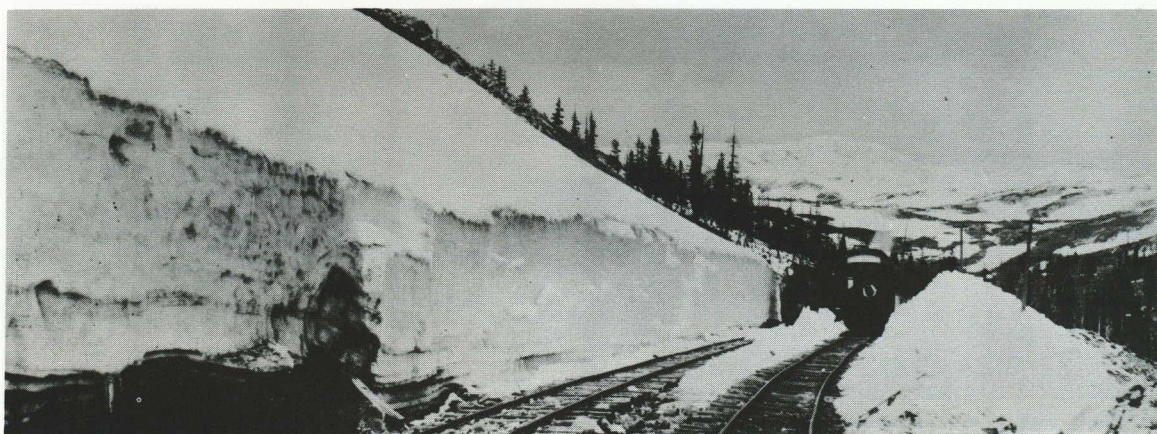


In a not-so-distant yesterday, frills and finery and flowing mustaches found unparalleled excitement in an excursion trip through Alpine Tunnel. The two cars with squared roof lines are Denver, Leadville & Gunnison rolling stock while those with rounded roofs are lettered Union Pacific. *Buckwalter Collection, Colorado State Historical Society.*





"There came a day when the clouds lay heavy on Alpine . . ." — Warman. East portal of Alpine Tunnel in June, 1895, while work was underway to reopen the bore which had been closed for five years, an event that claimed six lives. *Buckwalter Collection, State Historical Society of Colorado.*



The pall of death still hung heavily over Alpine Tunnel when this picture was made in June, 1895. In May two men had lost their lives on a runaway handcar. In early June, four others died while working inside the tunnel. ". . . a misfortune that causes sorrow to permeate every household." *Buckwalter Collection, State Historical Society of Colorado.*



In the mid-1930s Alpine Tunnel could be entered from the east portal, although snow and ice covered the rails until late summer. It is believed that the complete blockage occurred in about 1938. The great curve into the bore shows clearly in this photo. *Courtesy Violet Squires Howard.*





"Snow lies in perpetual blankets all the summer through and it seems as if the seasons unite at that place. Flowers, bright and fragrant, perfume the air . . . the songs of the bright winged birds trill through the stillness. It is summer, with fragments of winter lingering . . ." East Portal of Alpine in early July. *Photo by Author.*



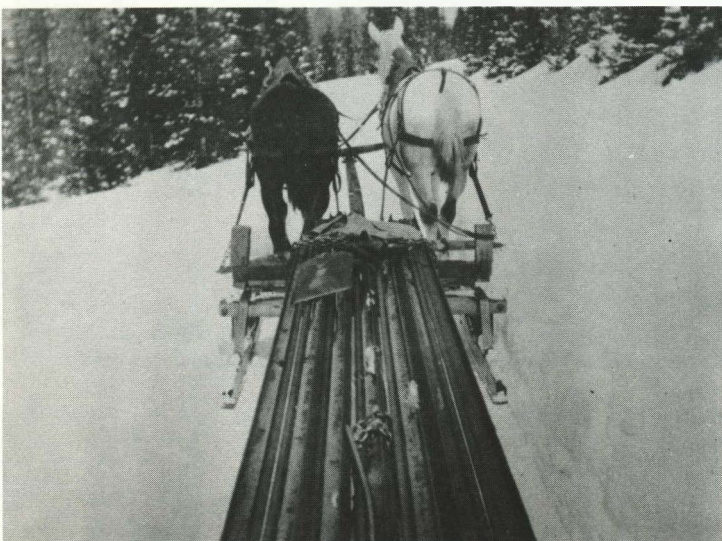
"There was little advance notice as we approached the East Portal of Alpine Tunnel . . . but suddenly, there it was." The cribbing, erected to support the great curve into the tunnel, stood firm and strong. *Photo by Author.*





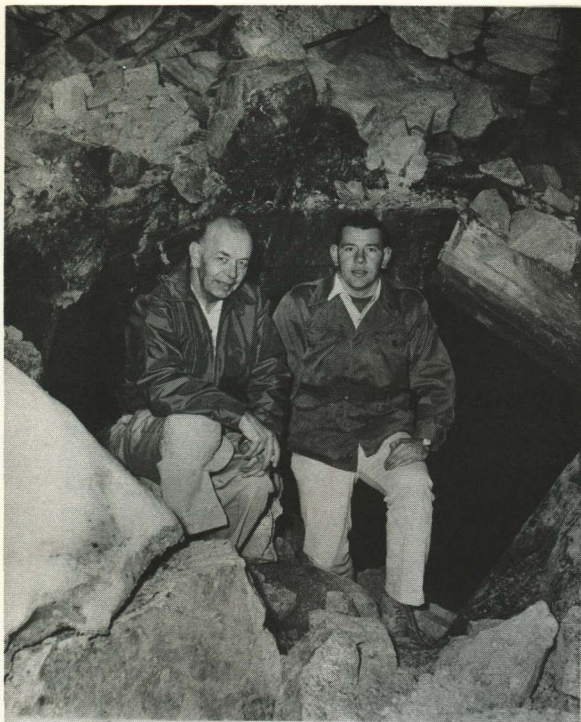
"... for who, in the days of our forefathers, would have dared assert that a tunnel could be dug through the heart of the Rocky Mountains?" — Hayward. East Portal of Alpine Tunnel, a scene of utter desolation. *Photo by Author.*

Teams and sleds were used to bring rails down from Alpine Tunnel to Hancock in deep winter. Bill Turner employed as many as forty teams while dismantling the railroad. Rails were gathered at Hancock and let down later on railroad cars, by hand. *William Turner photo.*

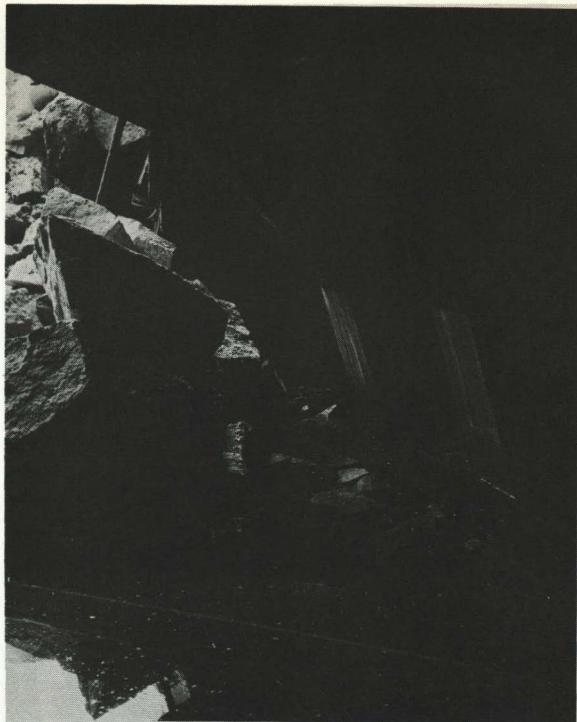


Load of salvaged rails being brought into Hancock by sled, when the line was taken up between Hancock and Alpine Tunnel by Bill Turner, of Buena Vista. *Photo by William Turner.*

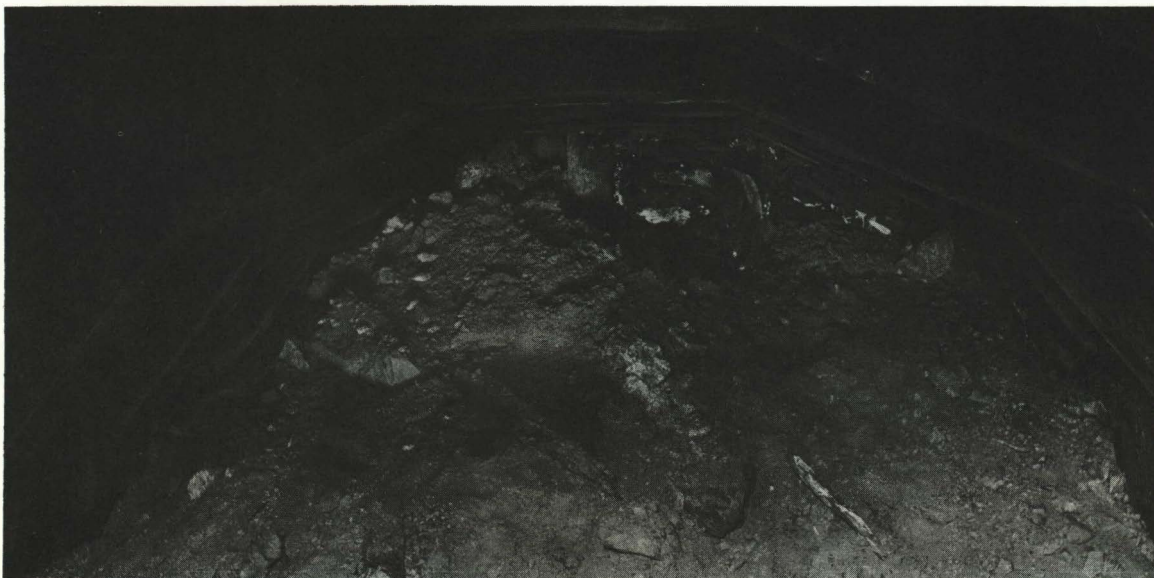




Photographer Webb (at right) and the author crouch in the tunnel opening at East Portal on September 30, 1962. The East Portal is not sealed off and can be entered for about twenty feet. The sturdy timbers are all in place and seemingly firm, up to the cave-in. *Delayed action photo by Charles Webb.*

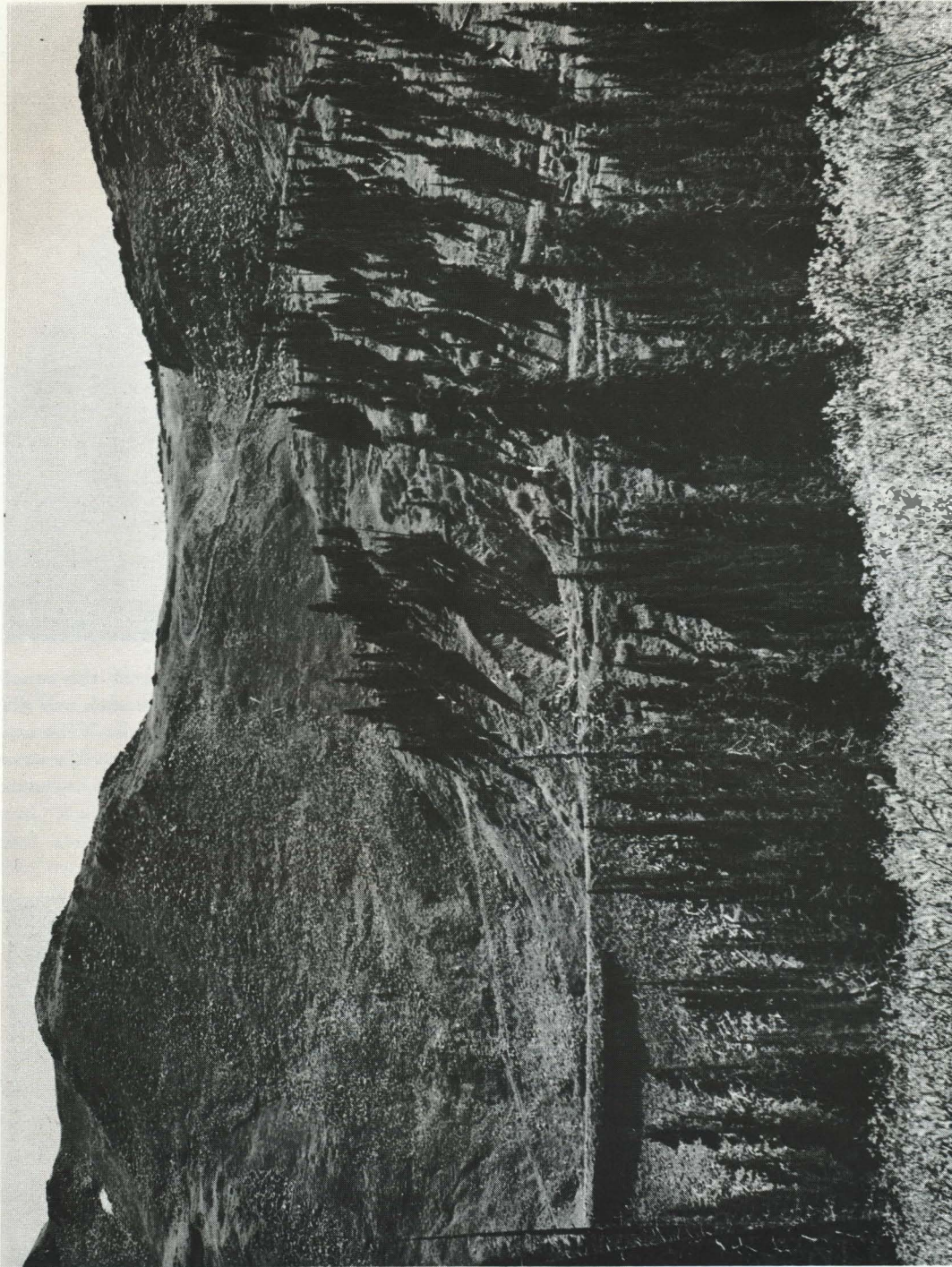


At East Portal about twenty feet of the tunnel is open. The lower part is filled with rock and water. To make this astounding photo, Charlie Webb crossed the water on a plank, set his camera at the cave-in, and directed his lens back toward the entrance of the tunnel. *Charles Webb photo.*



The big "cave-in" at East Portal, photographed from the entrance. The same seven segment system of American Block Timber Arching was used here, as in other parts of the tunnel, but the curvature of the arching appeared much flatter. It was interesting to observe how perfectly the joints remain fitted, even after eight decades of pressure. Directly at the top of the debris is an old tree root, carried down with the cave-in. *Charles Webb photo.*



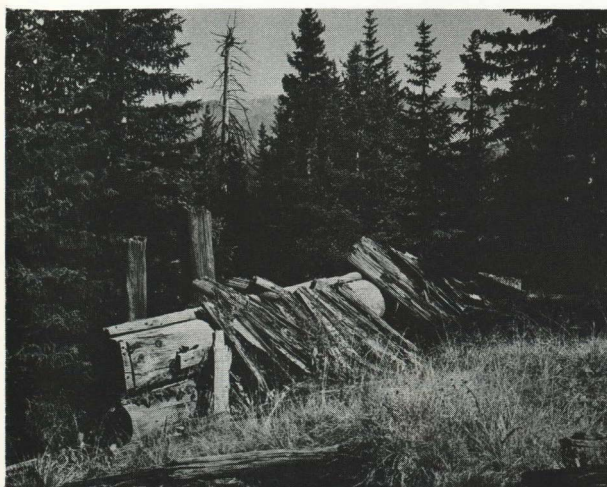


Charlie Webb crossed the depths of Tunnel Gulch to photograph the east portal and Altman Pass as they appear from the opposite mountainside. The portal is just below the clump of trees at center. The grade to Hancock leads away to the left. Roads to Streeter's Camp lead off to the right, while above is the old wagon road over Altman Pass. *Charles Webb photo.*



## Construction Camp at East Portal

"Alpine Tunnel was hand-made of fortitude, determination, and raw courage." Work at east portal had just commenced when this photo was made, showing seven stalwart men, with another on the hillside above, at their winter quarters. *Wm. H. Jackson photo, Charles Leaming Tutt Library, Colorado College.*



The logs of this cabin had been square cut with a saw. The fallen roof lies forlornly across them. Not one piece of finished lumber was found. Perhaps such lumber had been salvaged or perhaps little effort was made to house the tunnel workers in any degree of comfort. *Charles Webb photo.*

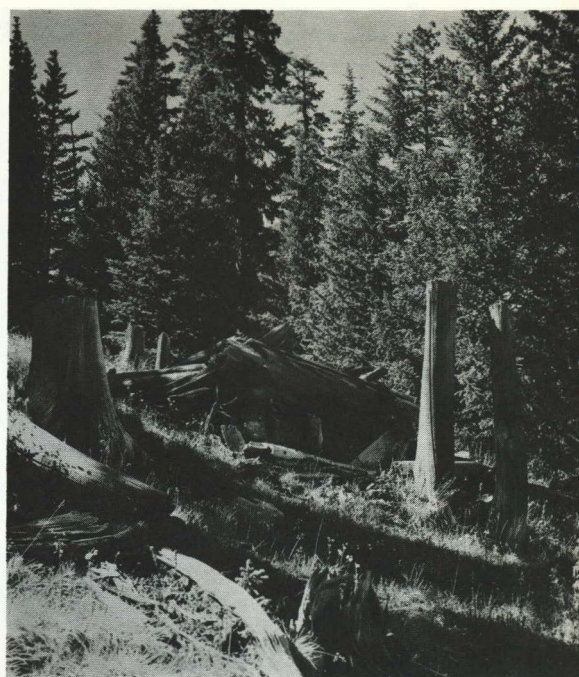


Corner of one of the many cabins that housed the diggers of Alpine. No complete cabin stands, just a scattering of logs and an occasional partial wall, such as this. We found many of the logs notched with an axe; others had been cut and notched with a saw. *Charles Webb photo.*

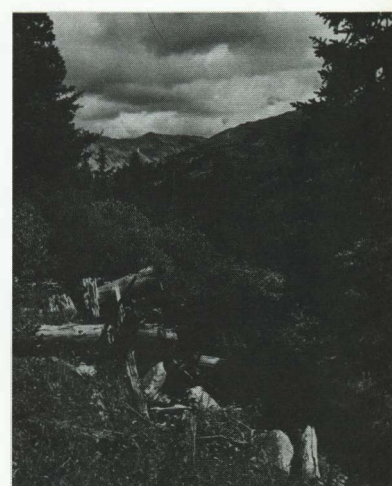
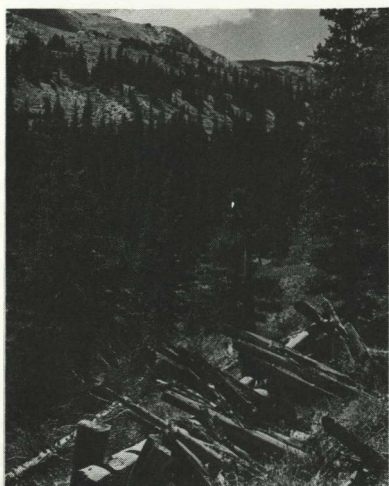




On this cabin site we found lengths of blackened and rusted stove pipe and portions of an old cooking range. Countless historical souvenirs might be found by digging through the underbrush. East Portal of Alpine Tunnel shows in the extreme upper right of picture. *Charles Webb photo.*



In the eight decades that have passed, the forest has largely reclaimed this area so rudely invaded by man. Side by side, the old stumps and proud new trees stand. The snow must have been very deep when these trees were felled. *Charles Webb photo.*



Streeter's: Ragtop: Miller's. Three names associated with the tunnel construction camps at East Portal. Until mid-summer of 1963, only the camp adjacent to the portal had been found. Charlie Webb then fought his way up Tunnel Gulch, by Jeep and by foot, and in the dense underbrush, almost directly below the East Portal, discovered the ruins of another camp. In this area he was able to locate the sites of some 12 to 14 buildings. In photo to left, the East Portal of Alpine Tunnel can be seen at upper left. Photos 2 and 3 indicate that these were large buildings, not just cabins. Their deteriorated condition is nearly identical to the ruins adjacent to the portal. Is there a third camp hidden in the jungle-like growth in Tunnel Gulch? *Charles Webb photos.*



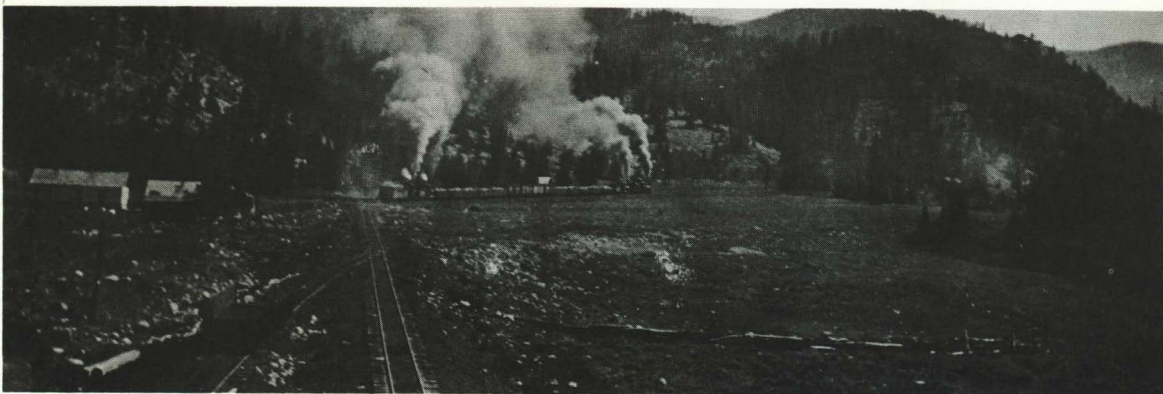
## Pitkin to Woodstock Area



During the colorful life of the South Park, Pitkin throbbed with railroad activity. All eastbound trains picked up helper engines for the long pull to Alpine Tunnel, and, until the turntable was constructed near the tunnel, all helper engines over the hill from Hancock turned on the wye at Pitkin. Only railroad structure still standing in Pitkin is the depot, long used as a private dwelling. *Courtesy Art Pearson.*



An excursion party awaits the "All aboard" at Pitkin in 1885. The ladies gaily balance their flowery picture hats and demurely peek from the coach windows while the men, with their well-groomed mustaches, lounge importantly. An added measure of affluence was the heavy, gold watch chain. Coach at left is from the Colorado Central Railroad. *Courtesy Tom Miller.*



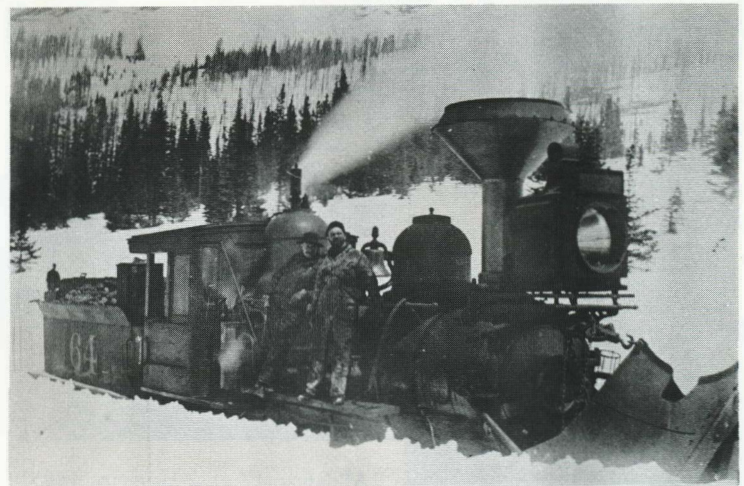
Four stalwart South Park locomotives, throwing plumes of smoke high into the sky, leave the Pitkin yards on the long pull to Alpine Tunnel. The drag consists of nine loads of coal, four merchandise cars, and one combination car. ". . . the whistle of the locomotive was revoiced until tossed beyond the tops of the peaks . . ." *Courtesy Violet Howard Squires.*





"Memories woven of forests of graceful pine . . . and massive mountains, presenting an endless view of snow, applying to the scene the name 'Alps of America.'" Long train of gondolas loaded with Baldwin coal and headed by three C.&S. engines, waits in the Pitkin yards for the tracks to be cleared to Alpine Tunnel. About 1900. *H. L. Curtis photo, Courtesy Violet Squires Howard.*

"Snow bucking was an art at which the hardy men of the South Park had no equals." No. 64 poses just east of Pitkin, in 1900, with its butterfly plow raised as engineer Stowe and fireman Bill Thomas glance grimly at the photographer. *Courtesy Violet Squires Howard.*



Long South Park freight train poses on the great curve near Quartz in 1888. Supplies for Tin Cup were unloaded here to be freighted by wagon over Cumberland Pass. Ore from the Tin Cup district was brought to Quartz for rail shipment through Alpine Tunnel. *William O. Wright Collection, State Historical Society of Colorado.*

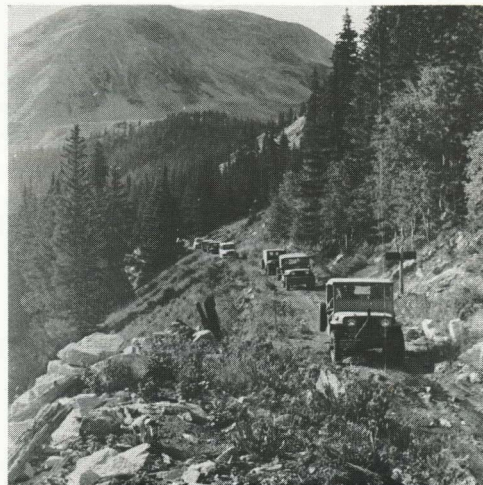




C.&S. mixed train of nine freight cars and one combination car, powered by three locomotives, pulls away from Midway tank, 1905. Engineer leaning out of engine No. 57 is the legendary Walt Parlin. *Courtesy Violet Squires Howard.*



Tunnel Gulch Tank, just below the former site of Woodstock, leans so heavily that it cannot possibly stand much longer. When it falls another gem from the South Park's necklace will be lost forever. *Photo by Author.*



Jeep caravans ascend where staunch little South Park trains ran, eighty years ago. Sign commemorates Woodstock slide victims. Jeeps are part of Salida Jeep Caravan, July 1959. *Photo by Author.*



## Woodstock



Rescue crews from Pitkin tie the bodies of the Woodstock victims to sleds to be taken to Pitkin. *Courtesy Art Pearson.*



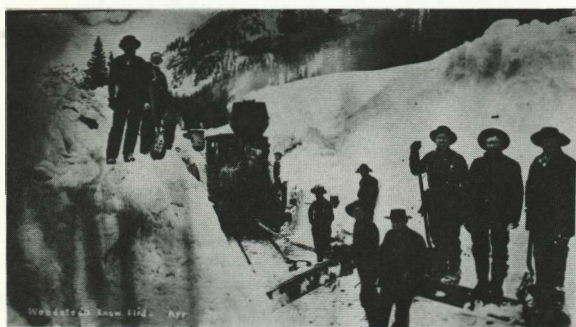
Women as well as men comprised the rescue teams from Pitkin. Twelve bodies were found and removed. One body was not located until the following spring. *Courtesy Art Pearson.*



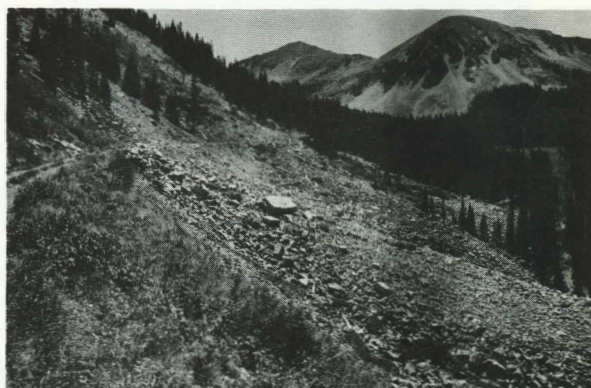
Rescue party nearing Pitkin with bodies of the victims of the Woodstock slide. *Courtesy Art Pearson.*



The task of clearing the rails of the South Park after the Woodstock slide was tremendous! Snow had to be shoveled onto flat cars and taken from the area. Note the many large rocks brought down by the snow. *Photo by Dean, Courtesy Art Pearson.*

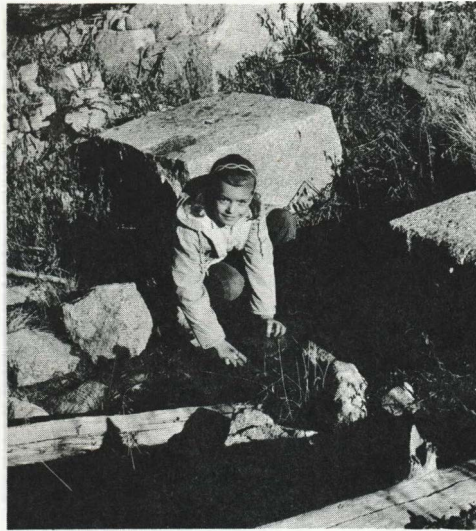
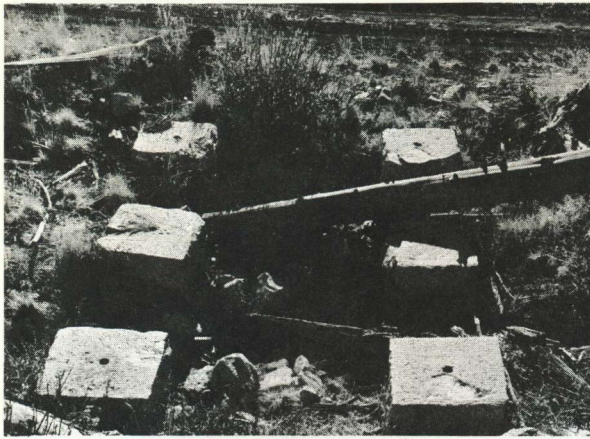


April, 1884, found these hardy men still at work clearing away debris from the great Woodstock slide, which claimed thirteen lives. Rock and timber buried in the huge snow banks made the task doubly difficult. *C. W. Erdlen photo, courtesy Francis B. Rizzari.*



Woodstock slide area as it appears today. Brittle Silver Mountain is at left rear and Paywell Mountain on the right. Tomichi Pass is between them. *Photo by Author.*





*The Six Stones of Woodstock.* There can be no doubt as to the exact location of Woodstock as the stones for the foundation of the Woodstock water tank are still in place (upper left) alongside the grade. Water still flows from the tank's supply pipe, as Margie Helmers (middle photo) prepares to quench her thirst. Many foundations and cabin sites (photos 3, 4, and 5) may be found hidden in the dense underbrush. In several places, substantial portions of the log walls are still standing. Railroad structures stood alongside the right of way while other cabins were located in the area between the railroad and the Alpine & South Park Toll Road. Some cabins were built on the hillside above the railroad grade. *Photos by Charles Webb and the Author.*

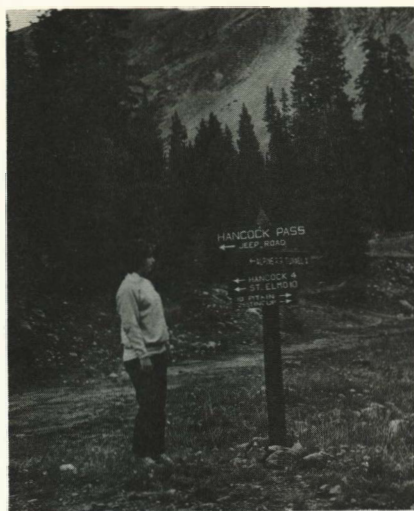


## Sherrod Loop and Palisades



This is one of the greatest of all mountain railroad pictures! Just out of Sherrod Loop, westbound, is a long South Park freight, while high above, on the upper level, another train works its way upgrade toward the Palisades and Alpine Tunnel. Mike Flavin, who later lost his life in the tunnel, stands second from the right. *Wm. H. Jackson photo, State Historical Society of Colorado.*

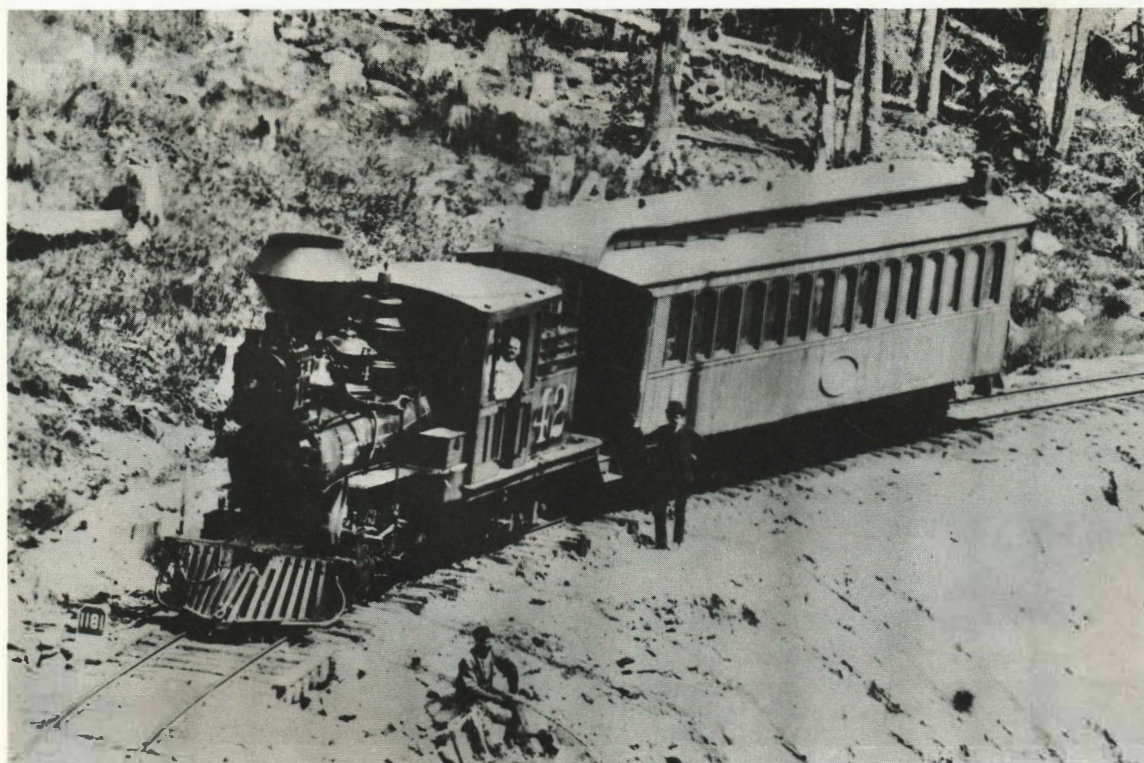




Francis B. Trudgeon's great love for the Alpine Tunnel district has led him to construct and erect 19 directional signs under a project known as a "Community Historical Marker Project." Kathy Helmers studies the three-way sign at Sherrod Loop. *Photo by Author.*

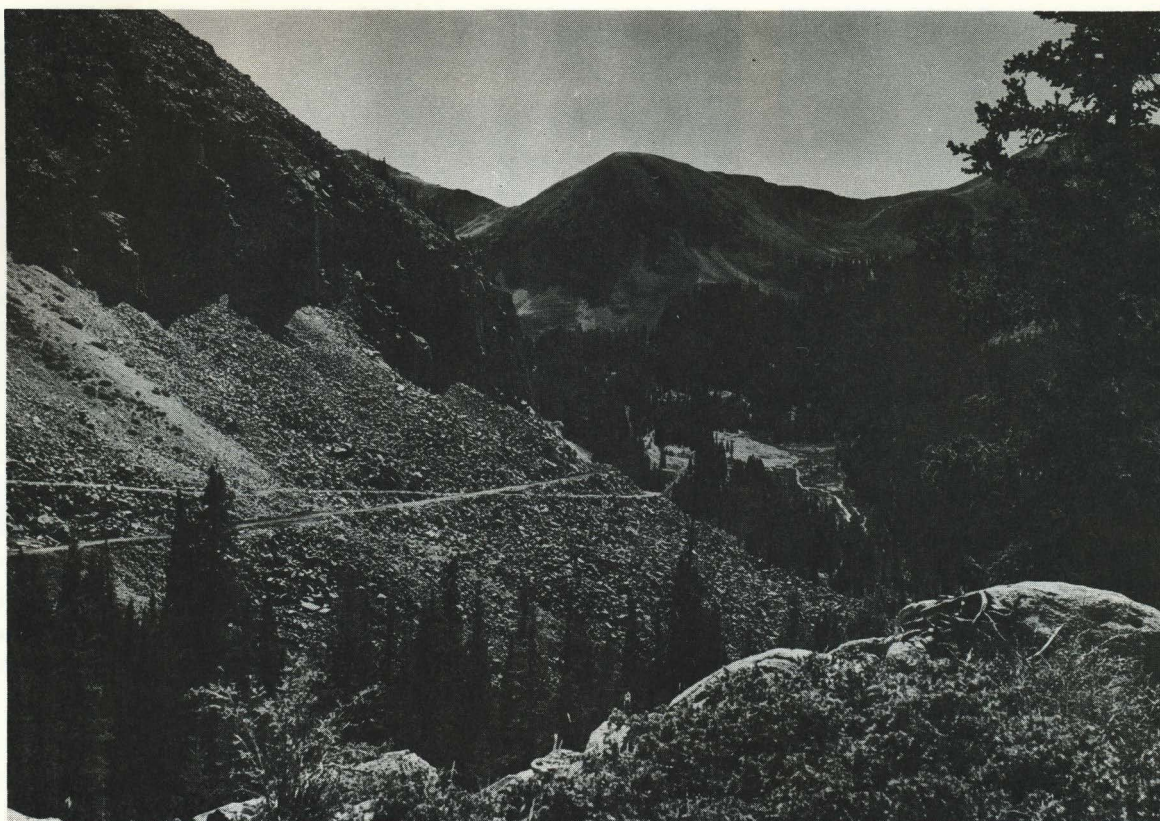


Towering, unnamed mountains of the Continental Divide as seen from the Sherrod Loop. Railroad grade shows clearly across two peaks. Alpine lies in the saddle just to the left of the center peak. Williams Pass is at right of center peak. "This scene is worth going from Atlantic to see." — Hayward. *Clarence E. Bennett photo.*

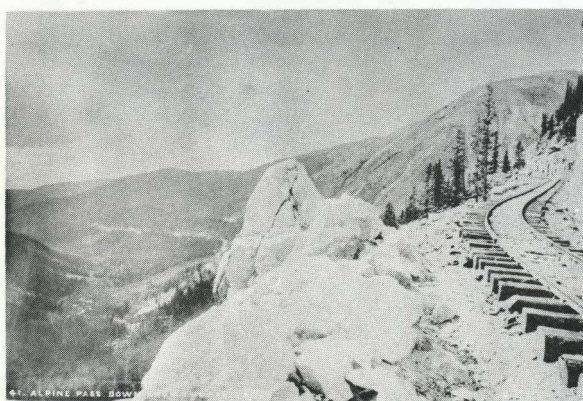


Wm. H. Jackson's photographic car, powered by DSP&P engine No. 42, in upper Quartz Creek, not far from the Sherrod Loop. On railroad assignments, Jackson was given sole use of a car adapted to his photographic requirements. *Wm. H. Jackson photo, State Historical Society of Colorado.*





The old Alpine & South Park Toll Road drops off from Williams Pass and crosses the South Park's grade. The Palisades are just around the curve of the railroad grade. In the background is Tomichi mountain, while deep in the valley may be seen a portion of Quartz Creek. *Charles Webb photo.*



Looking upgrade from the Palisades. Quartz Creek and its valley fade into the distance toward Pitkin. In left center the South Park grade clearly shows as it wends its way downgrade, with Middle Quartz Creek at lower left. *Wm. H. Jackson photo, courtesy Charles Leaming Tutt Library, Colorado College.*

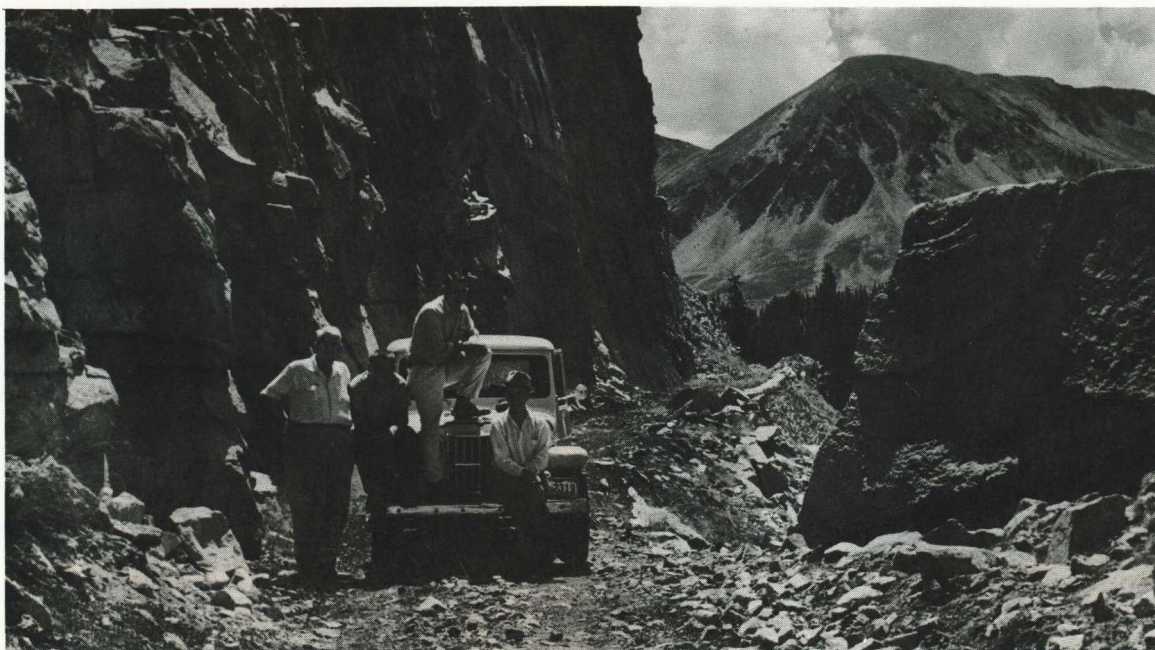


"It was like driving through a sea of rock, soaring up one side and falling off into the vastness below on the other side." Slide area on upper level of grade above Woodstock. *Photo by Author.*



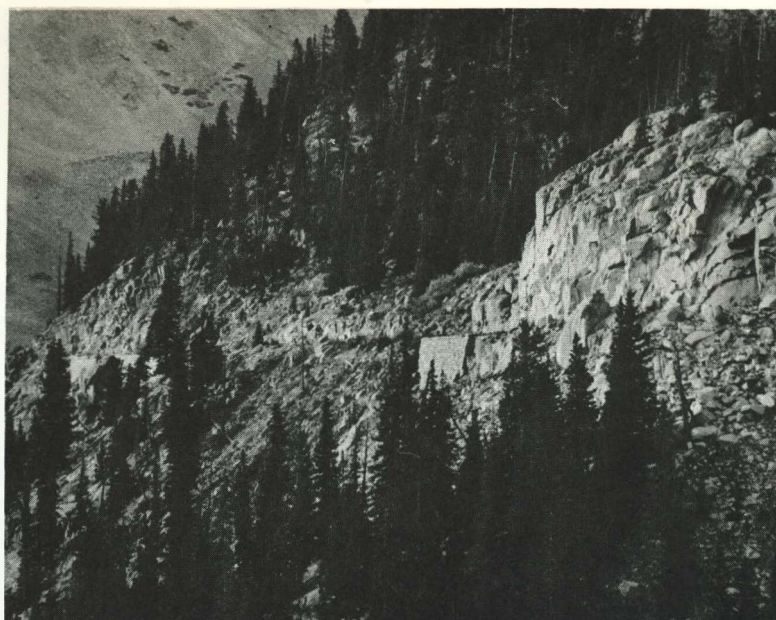


In 1889 engine No. 197, pulling an excursion train, posed on the Palisades. From left to right are Bob Williams, Howard Reed, Hugh Smith, and engineer John Stapleton. Art Pearson is among the youngsters perched on top of the cars. *Jas. Wiseman photo, courtesy Fred Winters.*

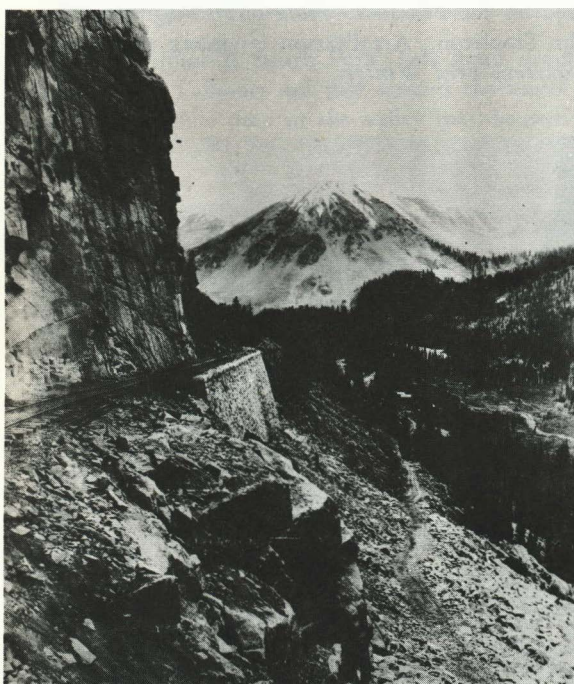


Seventy-three years after engine No. 197 posed for its portrait at the Palisades, these four South Park fans stopped their Jeep at the same spot. Little has changed other than the mode and means of transportation. From left to right, Clarence Bennett, Larry Bennett, Charles Webb, and the author. *Clarence E. Bennett photo.*

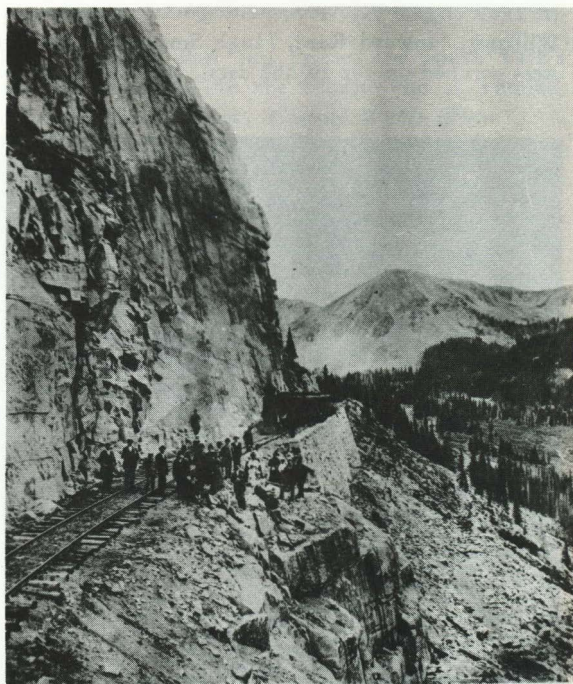




Telephoto view from the Sherrod Loop, showing three stone supporting walls. It is small wonder that Leonard Eicholtz wrote, "Do not regard this practical or safe at any reasonable cost." *Photo by Author.*



"... the train clings to the mountainside, the walls rising almost perpendicularly to a height of about five hundred feet . . . there is, perhaps, three feet between one and eternity." The Palisades was (and is) the most impressive point on the South Park's Gunnison section. *Wm. H. Jackson photo, State Historical Society of Colorado.*

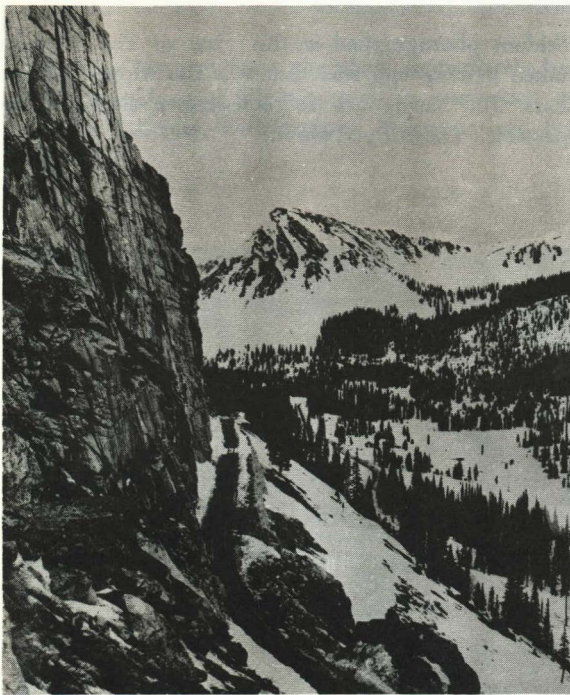


"In the presence of this majestic scene, is it any wonder that our excursion party, as if by one common impulse, gathered at the edge of the fathomless precipice and united in that grandest of all hymns, 'Nearer My God to Thee'? Hats were removed and there was not a dry eye in the assemblage when the last notes died away." *Art Works of Colorado photo, State Historical Society of Colorado.*

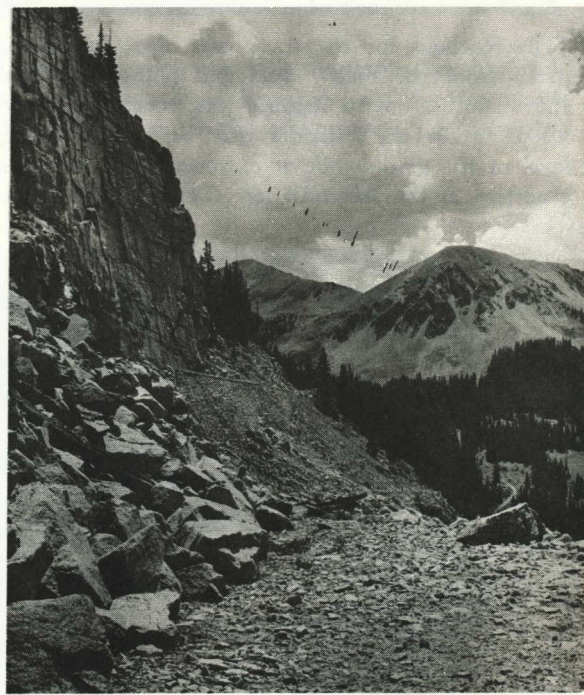




"On the Palisades the train passes between a stupendous natural wall and an artificial wall. The first rises upward to a height which would be appalling did not admiration drown out every fear. The other is the safeguard below." *William O. Wright collection, State Historical Society of Colorado.*

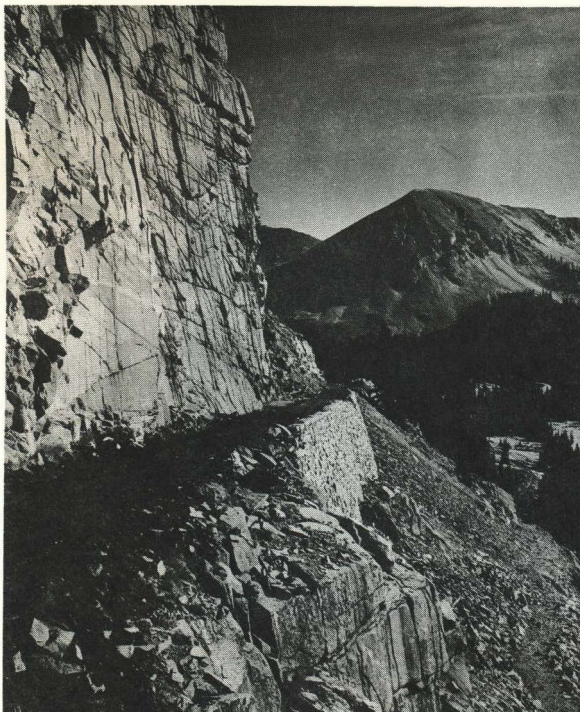


"It was the home of the snow king that civilization had invaded and the silent, snowhooded monarchs opposed the disturbing of the primeval silence." Singular view of the Palisades in deep winter. *Wm. H. Jackson photo, State Historical Society of Colorado.*

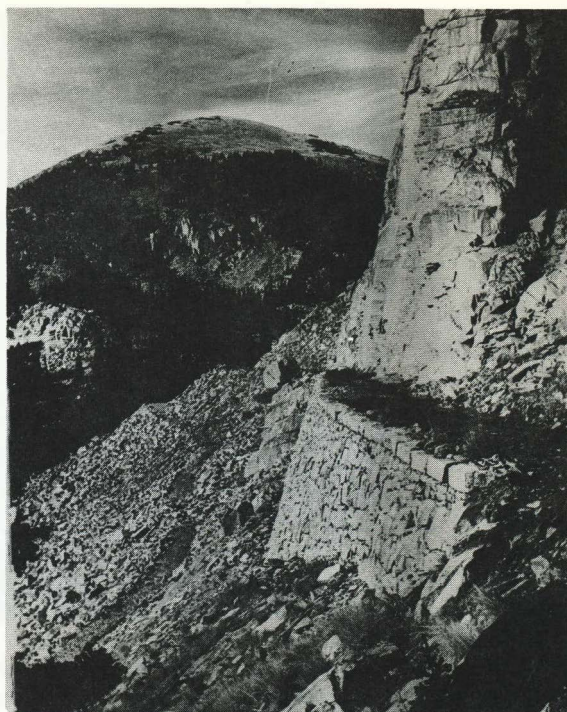


In the foreground is the old Alpine & South Park Toll Road as it climbs steeply toward Williams Pass. Above it are the great rock wall and the towering Palisades. Far below may be seen the lower level of the railroad, gently curving on its way to Woodstock and Pitkin. *Clarence E. Bennett photo.*

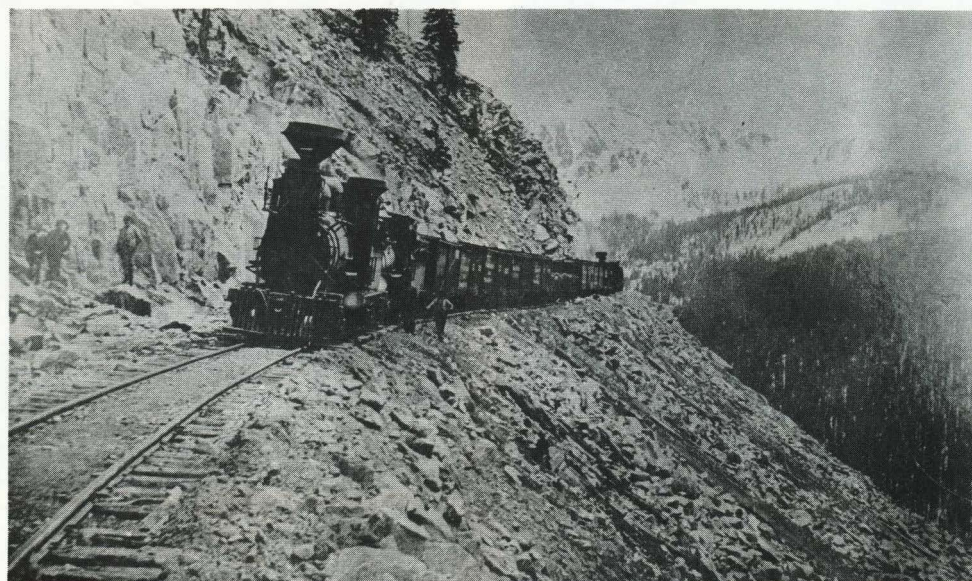




"The foothold for the track was made by tearing rocks from the rocky cliffs and piling them one above another until a roadbed was secured." — Hayward. Below the Palisades may be seen the lower level of the grade while at extreme right, center, is a portion of the Sherrod Loop. *Charles Webb photo.*



Seldom photographed is this view of the Palisades, taken looking upgrade. Below is the Alpine & South Park Toll Road, now so rock-strewn that it is impassable. *Photo by Author.*

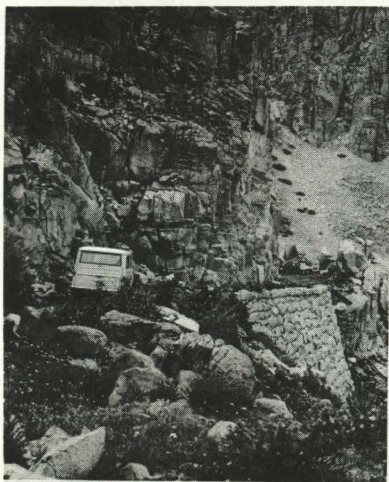


"Line is high on side of mountain, 1,200 or 1,500 feet above Quartz Creek valley and running over two rock slides and snow banks." — Eicholtz. Nine car freight, eastbound, heads upgrade about one mile from Alpine Tunnel. *Otto Westerman photo, courtesy George W. Champion.*





"Lifting his eyes from the abyss immediately beneath, one sees a view that kills the terror that has made him tremble, and fills him with an inspiration of poetry and delight." — Hayward. Looking downgrade to the Palisades, with Paywell Mountain and Brittle Silver Mountain in the background. *Photo by Author.*



"Our train [like this Jeep] is dwarfed by the immensity of the rock formations of the country." One of the supporting walls of fitted stones, just above the Williams Pass road and about two miles west of Alpine Tunnel, in Quartz Creek. *Clarence E. Bennett photo.*



"The rails from Wales are arriving in good order and have the appearance of being of excellent quality." — John Evans to his commission of merchants in New Orleans, 1881. These South Park rails, about one mile west of the tunnel, had not felt the weight of a train for many, many years when this photo was made. *Courtesy Violet Squires Howard.*



## Alpine Station Area



From atop the Continental Divide, on Altman Pass above Alpine Tunnel, the partially completed grade and a pile of rubble taken from the tunnel are seen. Construction camp is barely visible at lower left. "The hum of enterprise added new features . . . to the wild fastness, sacredly held by nature for ages . . ." Wm. H. Jackson photo, *State Historical Society of Colorado*.



After hiking from Hancock to East Portal on June 10, 1962, Charlie Webb continued to the top of Alpine Pass for this photograph. Vast deposits of snow engulf the station and deeply cover the right of way as it left the tiny valley for Pitkin. *Charles Webb photo*.



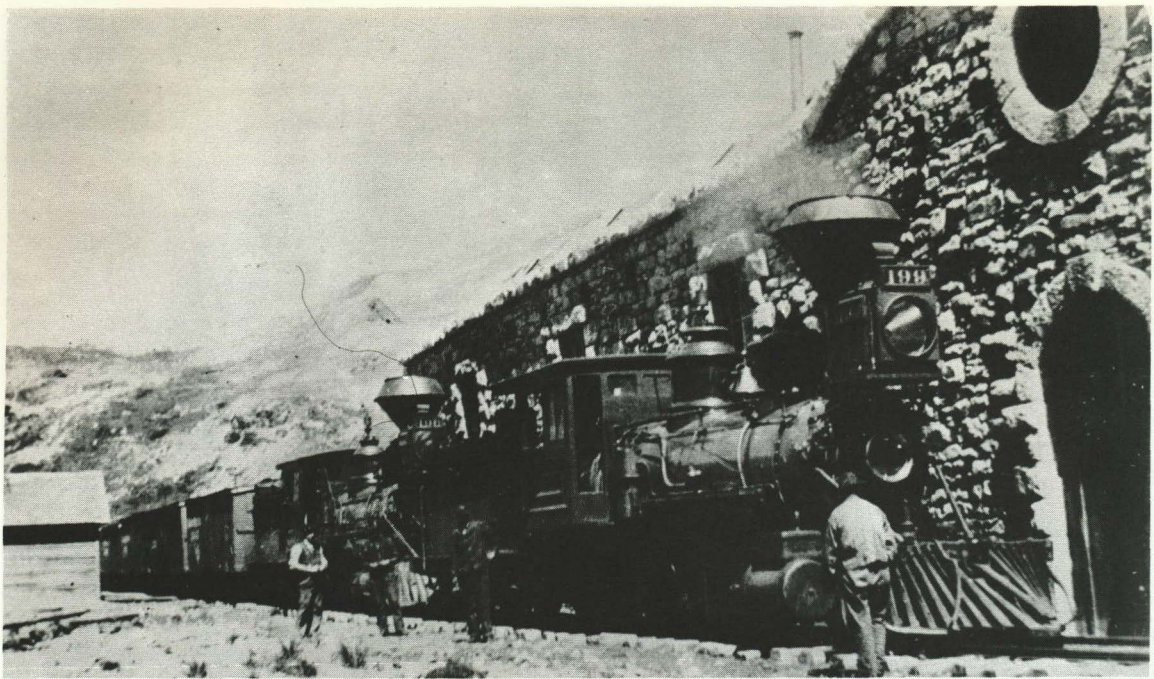


"How peaceful was my valley!" In eons of time this must have been the council grounds of the clouds. On every side ageless peaks sternly guard Alpine Station — so tiny, so lonely, so far away. Turntable is visible at lower right with West Portal just out of the picture at lower right. Old wagon road runs across foreground. *Photo by Author.*

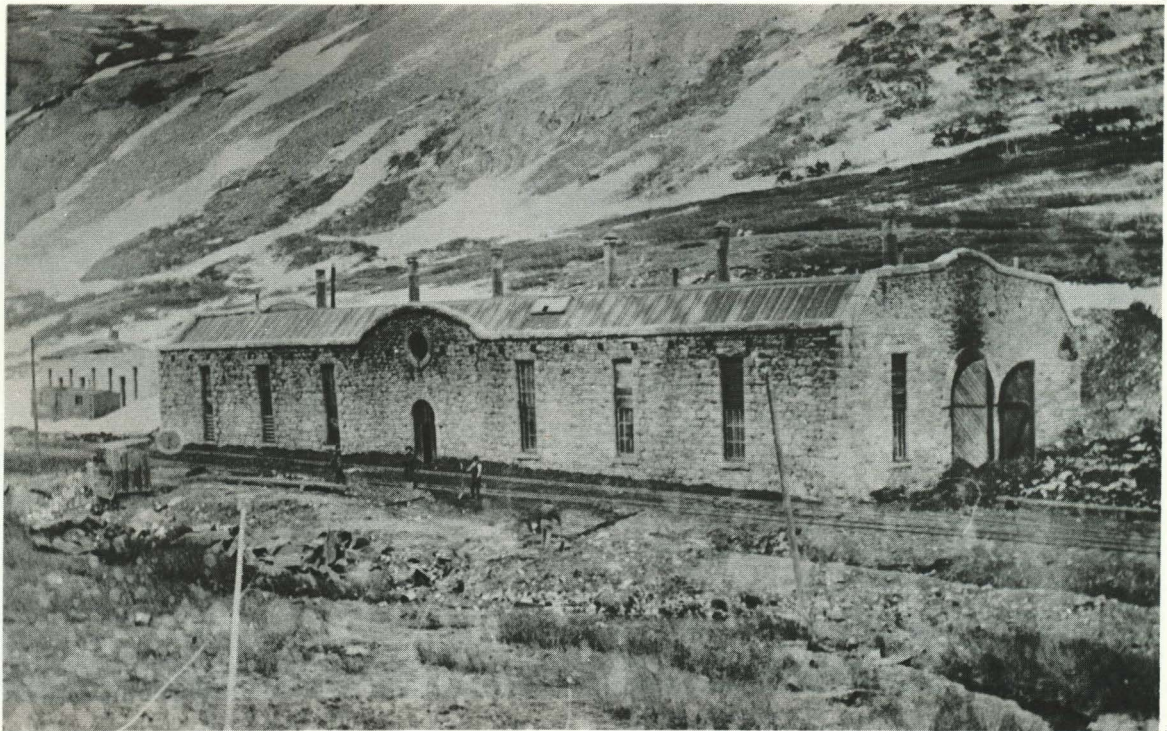


In this 1881 photo the engine house had not yet received its roof although rails had been laid alongside it. At right of center, in the distance, six construction shacks show, while at almost exact center snow sheds leading to west portal may be seen. Dark line is a crack in the original glass plate. *Wm. H. Jackson photo, State Historical Society of Colorado.*





Engines No. 196 and No. 199 have just brought a westbound freight through Alpine Tunnel and stand on the main line, between Alpine station and the stone engine house. In the 1890's, when this photo was made, activity on the road was at its peak. *Courtesy Roy D. Graves.*

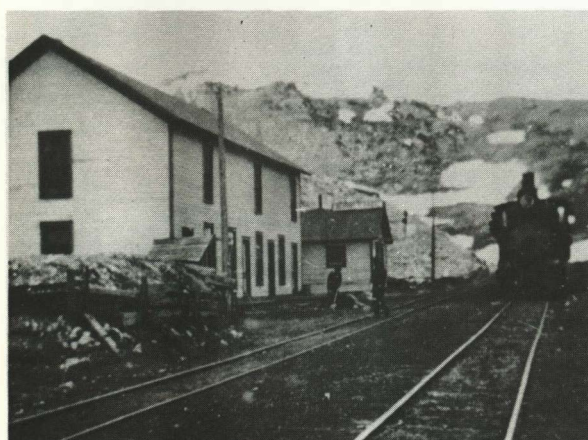


The great stone engine house at Alpine. Constructed without mortar, it served the railroad for more than 25 years, being destroyed by fire in 1906. It measured 54 ft. x 153 ft. and was heated by six mammoth coal stoves. The water tank occupied the extreme right hand corner. *Courtesy Tom Miller.*





Heavy black smoke from the two lead engines almost obscures Alpine's stone engine house in this 1897 scene. Helper engine is Denver, Leadville & Gunnison No. 206. *Dr. C. H. Scott photo, courtesy Violet Squires Howard.*

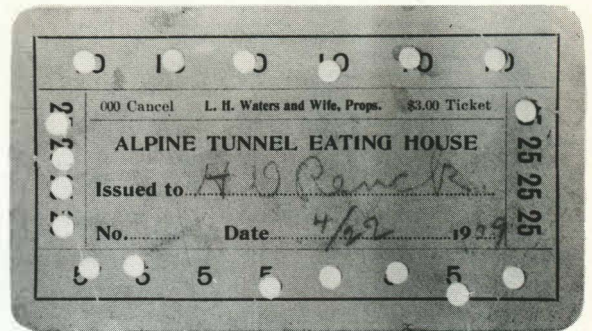
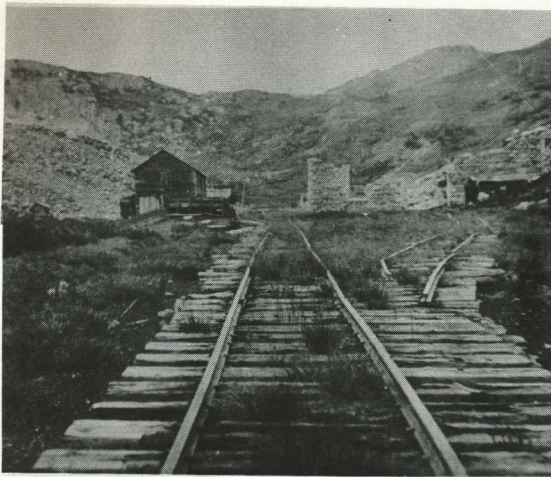


C.&S. engine stands alert and ready to proceed down grade to Pitkin in this 1909 scene. Section men work on the right of way. Coaling platform at left foreground still stands. *H. D. Renck photo, courtesy Colorado Railroad Museum, Golden, Colorado.*



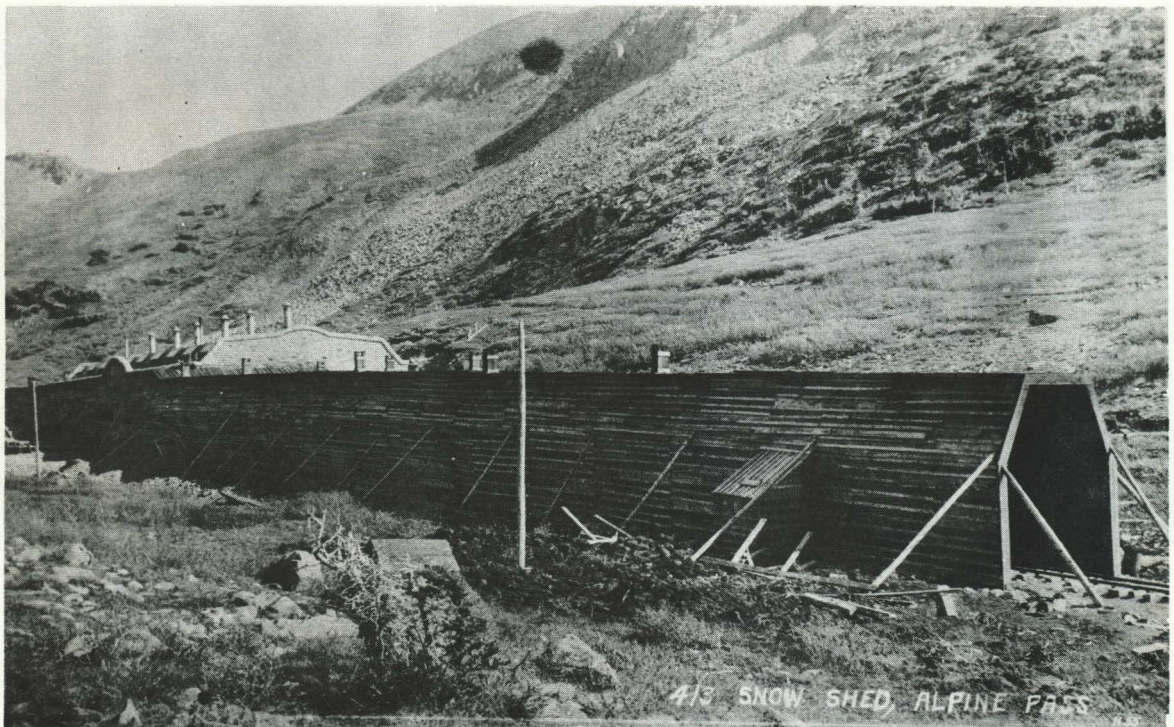
Icicles grace the eaves of Alpine Tunnel station and the boarding house in this winter scene of 1908. Sign near the door reads, "Western Union Telegraph & Cable Office." *Denver Public Library Western Collection.*





The only known "Alpine Tunnel Eating House" meal ticket is among the historical items on display at the Colorado Railroad Museum. Fireman H. D. Renck still had eighty cents to use. Mrs. Fred Everett, of Salida, worked for Larry and Kitty Waters. *Courtesy Robert Richardson.*

Although the rails are twisted and bent the grand two-story boarding house at Alpine stood straight and firm when this photo was made. At extreme right is an old utility shack which still stands. Alpine Tunnel penetrated the ridge of the Continental Divide in background. *Courtesy Mrs. Evelyn Calder.*



"Firemen would knock the boards off the snowsheds with chunks of coal," — Oscar Perschbacher. The roof of the engine house shows just above the long shed. The small side structure on the snowshed housed the switch. *Wm. H. Jackson photo, State Historical Society of Colorado.*

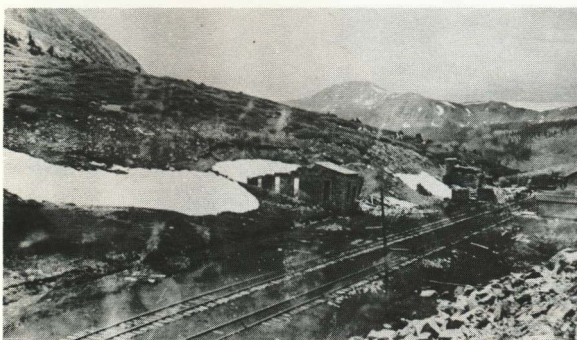




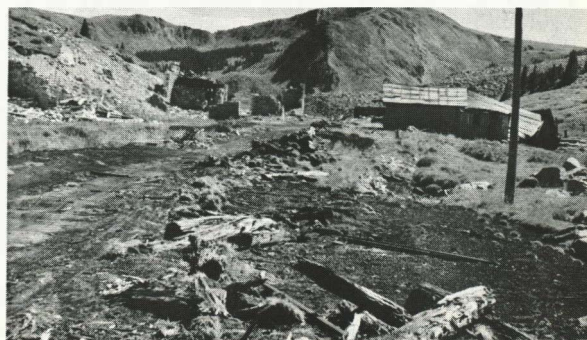
Abandonment! Lett to the ravages of storms, "The old pioneer railroad of the past speaks to us as a living voice!" — Colin L. Moore. *Courtesy George W. Champion.*



Adjoining the stone engine house on the east was a large stone boarding house, also destroyed when fire razed the engine house. The doorway still stands and debris shows that the interior walls were lathed and plastered. Jeep stands on the right of way facing toward the west portal. *Photo by Author.*



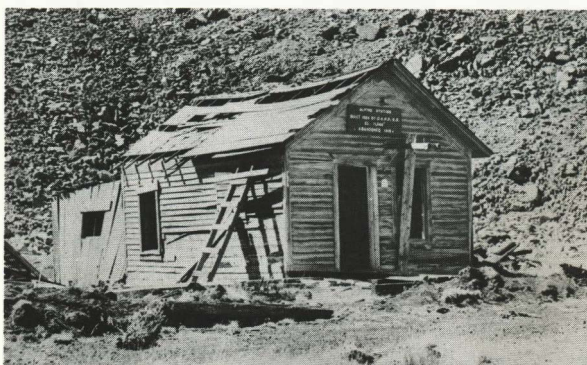
"So fleet the works of man . . ." Water from melting snows almost covers the rails in this study in desolation. Alpine station is at extreme right. Stone building at center is old bunkhouse. *Courtesy Violet Squires Howard.*



"Wooden structures at the tunnelsite, ghosts of a distant past, are slowly decaying. It gives one an eerie feeling to approach the station, knowing that once, at this fantastic elevation, men and locomotives fought the elements for 30 years before acknowledging defeat." — Chas. W. Mueller. *Photo by Author.*



Under the brow of the Continental Divide, the past keeps a wistful foothold on the present. Amid rubble and desolation, Alpine station stands proudly, defiantly. *Photo by Author.*

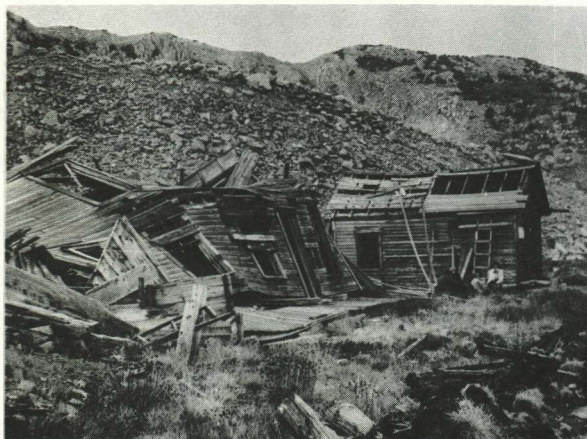


"Battered by countless storms, windowless, with much of its roof blown away, the little station seemed ready and anxious to welcome the next train, unaware there would be '... no train today.'" Entering the little room seemed like being invited into the parlor of an old and beloved friend. *Photo by Author.*





"The door of the old hotel resisted . . . groaning on its heavy hinges it opened enough for me to squeeze through. I found myself in a rustic lobby. Pack rats scurried everywhere." — Mary Taylor. One of the last photos made of the boarding house before it collapsed from the torments of fifty-three winters. *Robert W. Richardson photo, courtesy Colorado Railroad Museum.*



"I worked as a carpenter when the big boarding house was built. Is it still standing?" (We had to tell Oscar Perschbacher that it had finally collapsed.) "Our gang worked about two months to build it." *Photo by Author.*



Across the main line from Alpine station are the tumbled ruins of the great stone engine house, reminiscent of old Roman ruins, gradually succumbing to the relentless attacks of nature. *Photo by Author.*



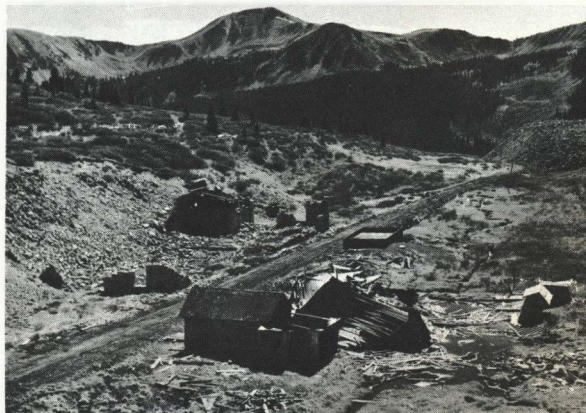


"The twinkling stars and moon still shine,  
Down on the crumbling engine house  
and what's left of old Alpine." — Squires.

In one corner of the great engine house are the ruins of the huge water tank. Among the debris on the floor we found a weathered keystone, deeply chiseled with the date, 1881. *Photo by Author.*



The stark desolation of the abandoned buildings of Alpine Tunnel station inspired Mrs. Margaret Flick of Ohio City to preserve their spirit in this striking oil painting of the once proud boarding house and the tiny dispatcher's shack. The glorious beauty of the Colorado sky and the eternal strength of the Continental Divide contrast sharply with the sagging hopelessness of the old railroad structures.



"The great buildings crumble, and with them fades away my pleasant memories of Alpine days." — Colin L. Moore. Little remains of the great stone engine house in 1962, but tiny Alpine Station proudly sports a new roof, installed by Francis B. Trudgeon as part of his fine Historical Marker Project. *Charles Webb photo.*



## West Portal Construction Camps



The doorway of this old construction cabin has silently watched over Alpine for more than eight decades. Tunnel portal is out of picture at the right. Rubble from the tunnel was used to build the grade. Alpine Station and the engine house are just beyond the great rock slide. *Clarence E. Bennett photo.*



Scattered timbers and nails mark the site of the construction camp, with Alpine's west portal in the background. "... it is only a wonder to me that even one man ever worked long in such a blizzard region." — *Denver Republican. Photo by Author.*



Amid a sea of mountain daisies, on the slopes just south of the west portal, are ruins of the cabins and shacks that housed the construction crews. "It is believed there never was a work where there was so much difficulty in keeping men." — *S. E. Land. Photo by Author.*



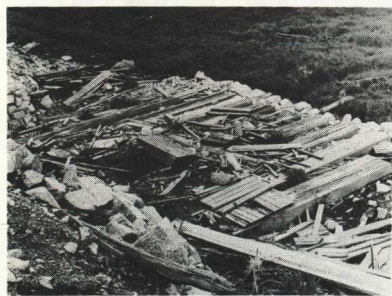
At west portal, inspection reveals there were at least four sturdily built one-room cabins and several larger bunk house structures. This is the half-buried doorway to one of the cabins. "During heavy storms men had to go to their cabins from their work in gangs to keep from being lost in the snow . . ." *Photo by Author.*



## West Portal



"It is something to know that the world cannot duplicate this ride . . . this audacity of engineering . . ." Combination car, between two engines, pauses before Alpine's west portal on a wintry day shortly after the turn of the century. Grade at lower right leads to uncompleted turntable. Telegraph pole still stood in 1963. *Courtesy Tom Miller.*

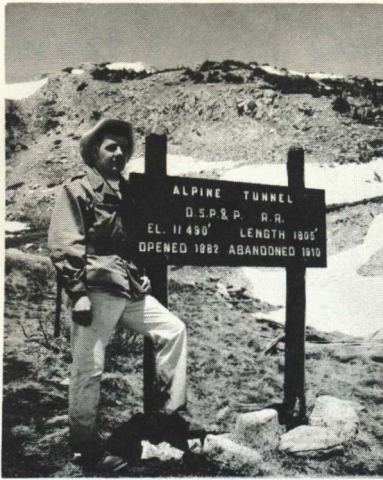


Following the loss of the water tank in the fire that destroyed the great engine house, a new water tank was constructed close to the turntable and just across the tracks from it. Water was supplied by a spring on the hillside between the turntable and the west portal and piped under the tracks to the new tank. Only the foundations remain. *Photo by Author.*



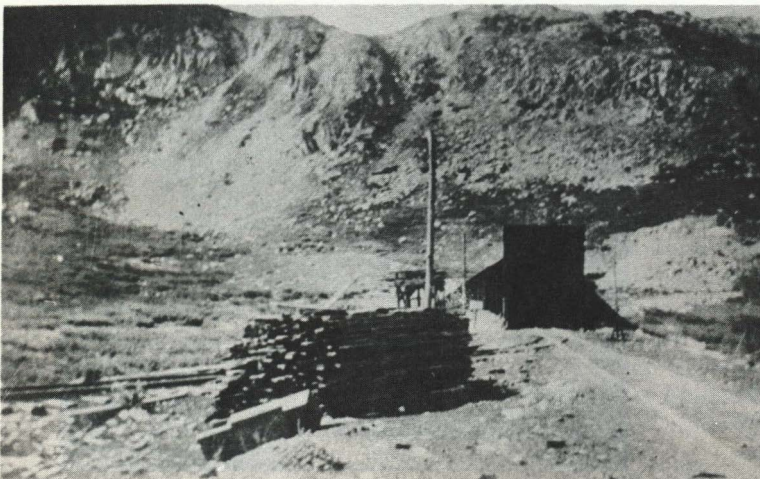
Up slope from the West Portal of Alpine Tunnel is the spring from which the water tank was supplied. Several sections of pipe were found. The strain shows clearly in the far corner of the protective box. *Photo by Author.*





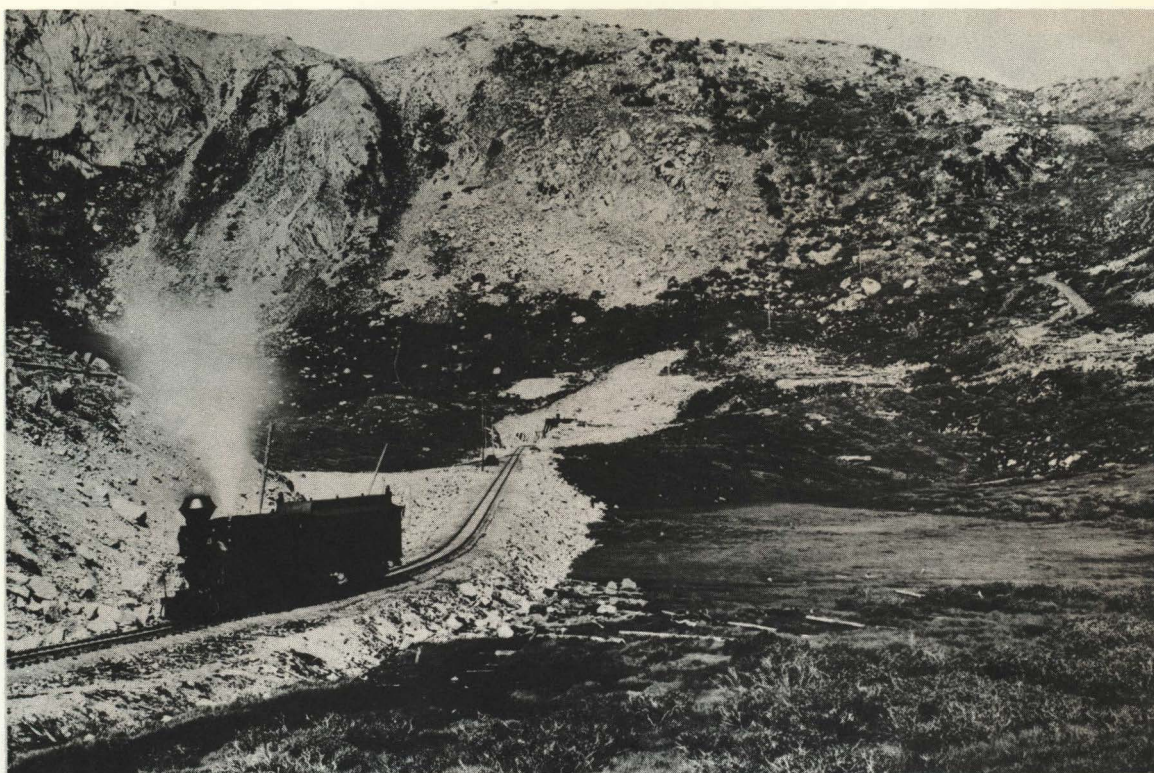
Photographer Webb studies the Continental Divide from the commemorative sign marking Alpine's west portal. Great tribute is due Francis B. Trudgeon, of Denver, whose hobby is this "Historical Marker Project." Trudgeon describes it as "... a community project in which all materials, labor and ideas are donated by those people interested in preservvng the famous little dispatch station for railroad fans and others who like to visit Colorado's points of interest." Trudgeon has made and erected thirteen wonderful directional signs, all the way from Hancock to Quartz.

The turntable was located on the north side of the main line between the west portal and Alpine Tunnel station. In 1962 some rail was still in place on the turntable. *Charles Webb photo.*

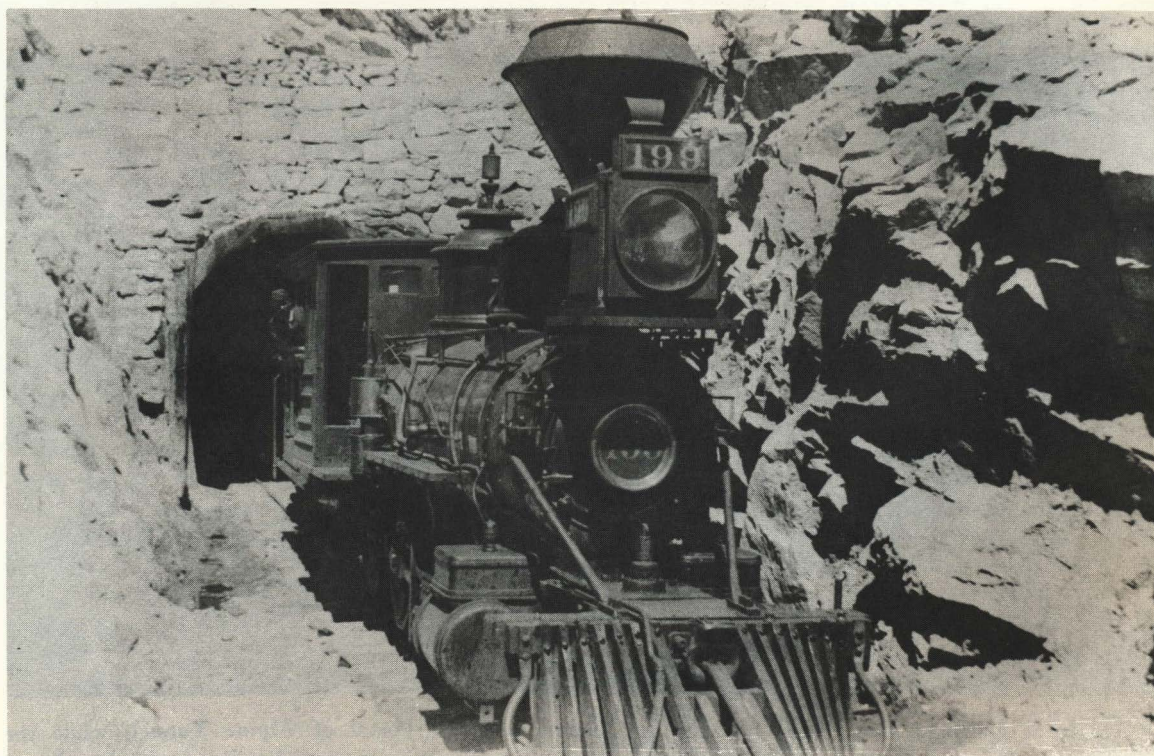


When this photo was made, snowsheds reached from Alpine's west portal to the turntable. Mainline track is on the right, spur to turntable at left. *Courtesy Violet Squires Howard.*



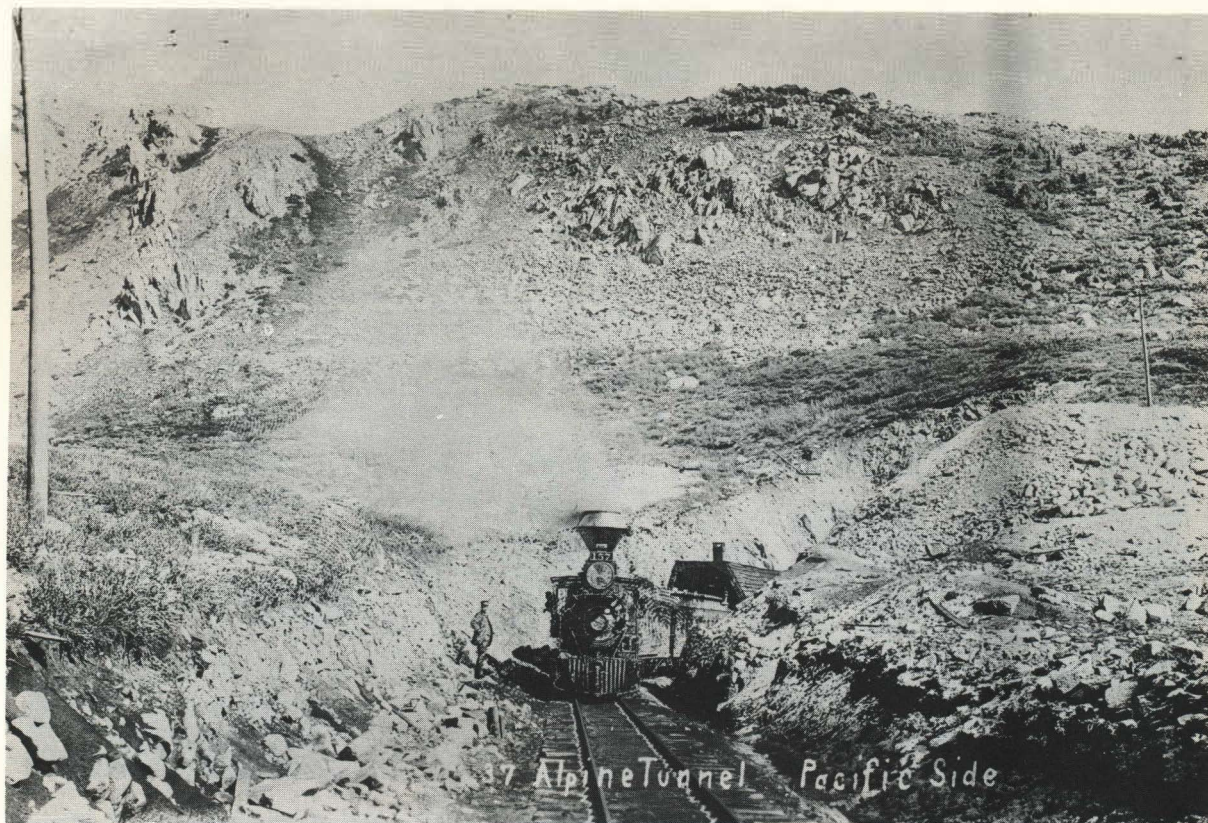


"... the chain of commerce and travel threaded through the mountain with wonderful volume." West-bound passenger train lets off steam as it slides downgrade toward Alpine station from the west portal of Alpine Tunnel. *Wm. H. Jackson photo, State Historical Society of Colorado.*

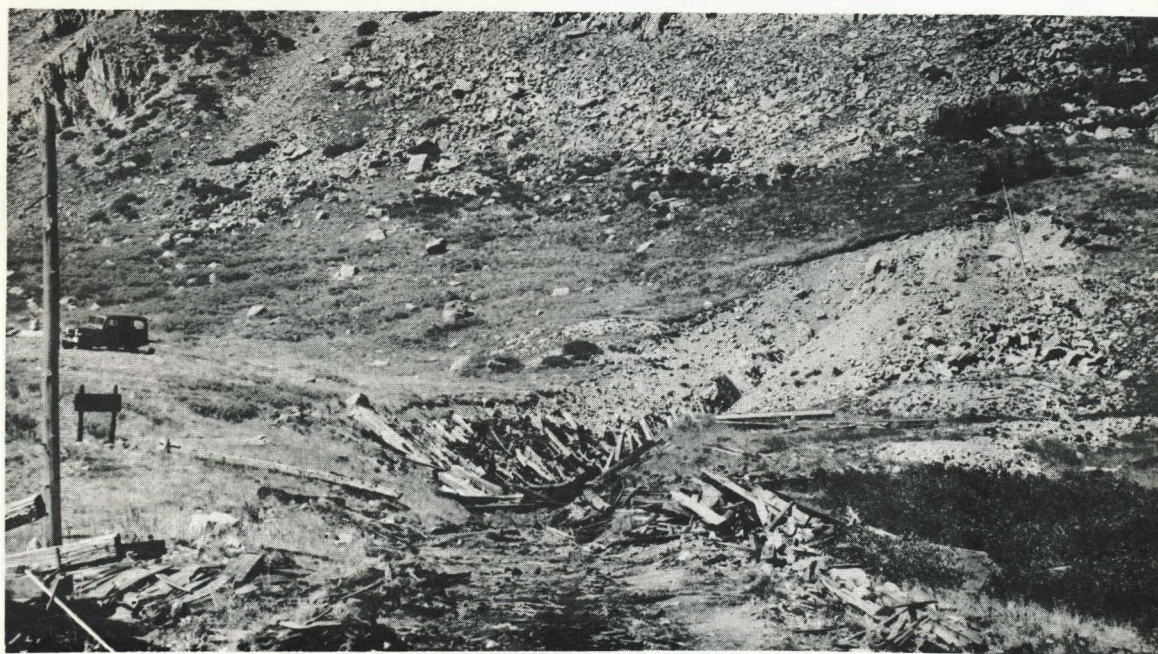


"The great expanse was only warranted by the greatness of the country, which is now fastened to the outer world by this link of darkness." DL&G engine No. 199 emerges from the west portal of Alpine Tunnel in the 1890's. *Courtesy Roy D. Graves.*





"... a plunge is taken into the blackness of Alpine Tunnel. You enter from the Atlantic slope; you emerge upon the Pacific. The impetus tells the moment it is crossed..." *Union Pacific Tourist*. Engine No. 157 at West Portal. *Erdlen photograph, courtesy Francis Rizzari.*



A tangle of collapsed snow sheds fills the cut leading to West Portal of Alpine Tunnel, while the Continental Divide towers above in all its savage splendor. Rotted ties, rusted spikes, and railroad iron are scattered all about. *Photo by Author.*





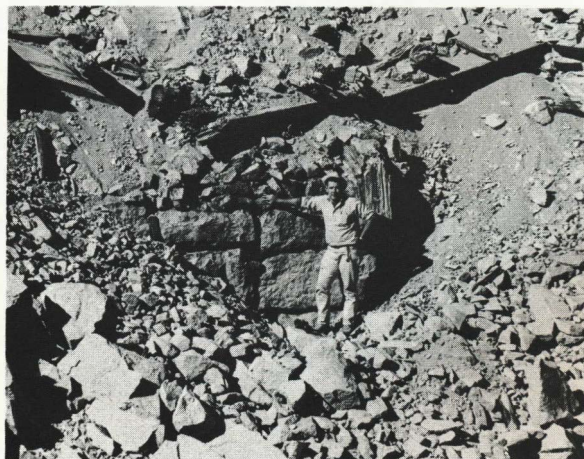
Dirt and rocks, slipping down from the sides of the cut, have completely sealed Alpine's west portal. The keystone of the entrance arch is directly below the cut stones at center of picture. *Clarence E. Bennett photo.*



Rails of the old South Park are still firmly in place under the crushed snowshed timbers at west portal. In September, 1962, from atop Altman Pass, hikers observed two Jeeps, chained together, laboring mightily to drag rails from under this debris, perhaps for souvenirs. Such is the magnetic charm that Alpine exerts on its fans. *Clarence E. Bennett photo.*



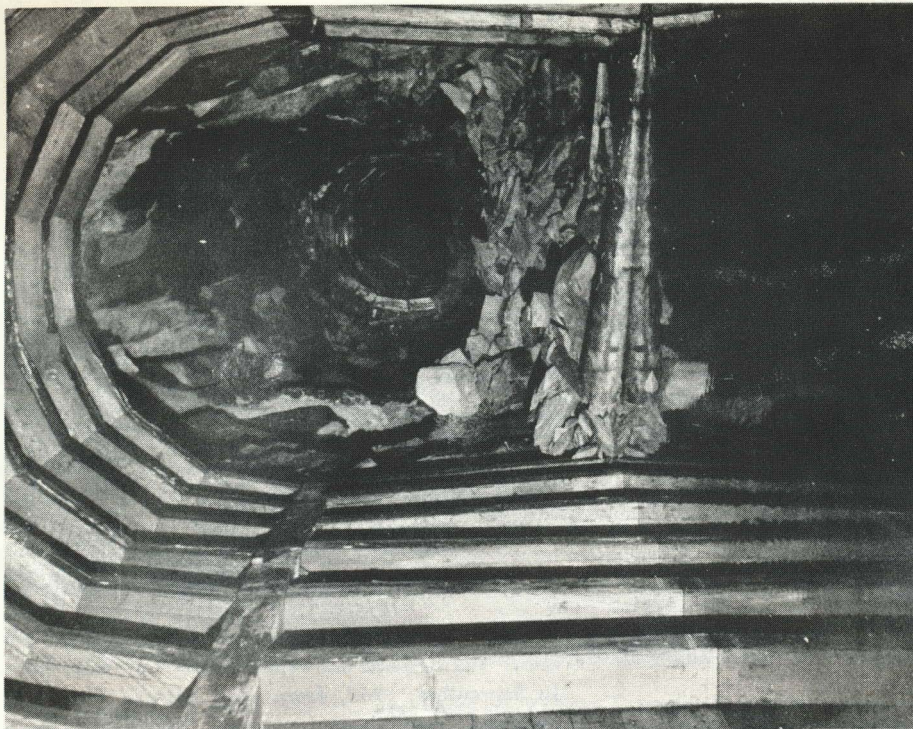
When this photo was made, in about 1945, dirt and rock, slipping down from the sides of the cut, had not yet completely sealed off the west portal of Alpine Tunnel. In the ensuing years the tunnel portal is intact and undamaged, but is no longer visible. Dirt has piled high above the top of the arch. *Courtesy Violet Squires Howard.*



How completely the west portal of Alpine Tunnel is covered is demonstrated by this photo of Charlie Webb leaning against the few cut-stones that are still visible. These same stones can be identified in the photo made in 1945. As dirt continues to pile up, even these stones will vanish under the rubble. *Photo by Author.*



## Tunnel Interior



"We proceeded into the tunnel with a feeling of both excitement and uneasiness, for we knew we were the first human beings inside the famous bore in many years." Jim Ozment and Paul Chandeys-son explored Alpine Tunnel in August, 1960. This photo, close to West Portal, was lighted by flash bulbs. *James Ozment photo.*



This is the dirt pile that seals off West Portal, viewed from inside. At top is small hole used to gain entrance. Some of the artistic fungus shows clearly. The redwood timbering appeared to be in excellent condition. The handle of our small shovel can be seen in upper right. Dirt or rock could easily have slid down and closed our small entrance hole. *Charles Webb photo.*





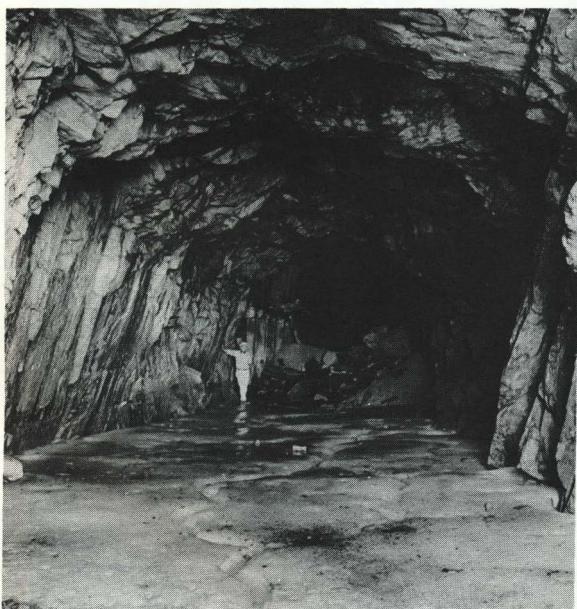
Inside the tiny eyelet that threads its way under the Continental Divide, time has stood still! A half-century has passed since this artery of commerce has seen a train! Only in Alpine Tunnel can one walk on the rails of the historic old South Park! *Bennett-Webb-Helmers photo.*



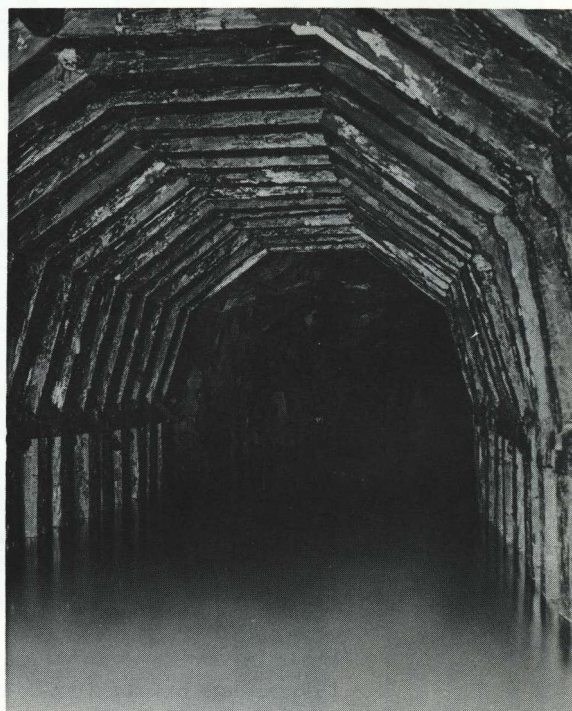
## Speaking of Tunnels



West portal of the 9,394-ft. Carlton Tunnel, near the shores of Lake Ivanhoe, now used to divert water from the western slope to Turquoise Lake on the eastern slope. Water passes through the Carlton by way of a huge pipeline, sections of which are in the foreground. Trucks and service cars can still drive through the tunnel but no other traffic, vehicular or pedestrian, is permitted. *Photo by Author.*



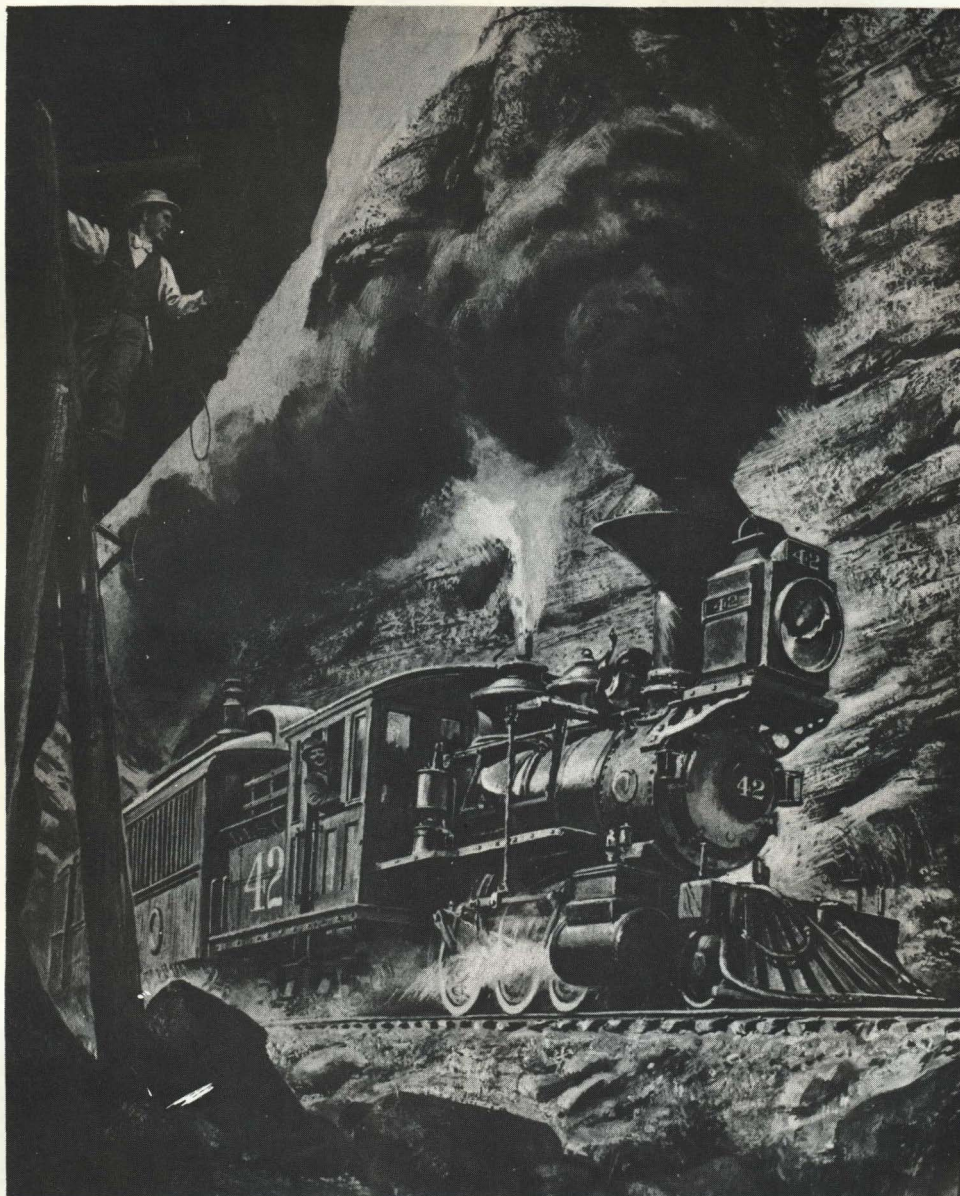
Just a few years after the completion of the Alpine Tunnel, another tunnel, the Hagerman, pierced the Continental Divide. Cutting through the shoulder of Mt. Massive, west of Leadville, the Hagerman Tunnel carried trains of the Colorado Midland into Glenwood Springs, from Colorado Springs. The midland, being a standard-gauge railroad, required a larger tunnel than Alpine, although they were close to the same length, Hagerman being 2,061 feet in length. In this 1963 view, photographer Webb stands on the solid ice that covered the tunnel floor, inside the east portal. A cave-in partially blocks the tunnel, where the timbered section begins. *Photo by Author.*



West portal of the Hagerman Tunnel, 1963. As at Alpine, debris in the cut is slowly covering the portal and has dammed up water in the tunnel. The builders of Hagerman Tunnel used five segments in the arch, whereas Alpine's builders used seven. *Charles Webb photo.*

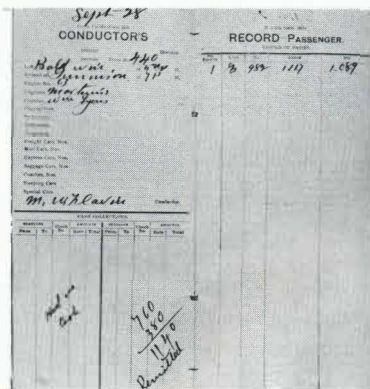
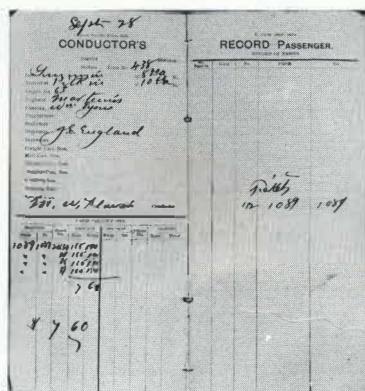
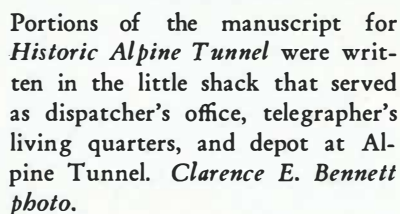
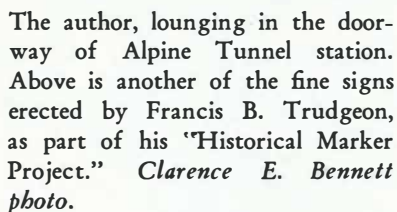


## Photos of General Interest



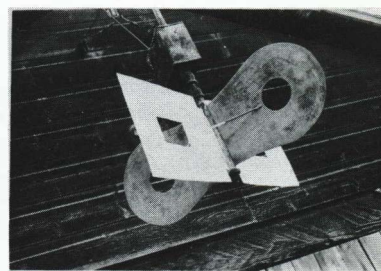
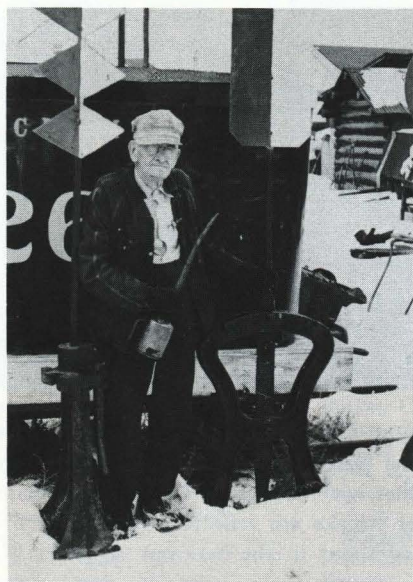
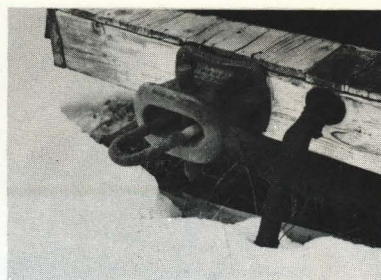
"Denver, Leadville and Gunnison" — a painting by Philip Alan Ronfor. The artist has captured all the seething action of a little Mason engine threading its train through deep canons with whistle screaming and clouds of black smoke trailing into the Colorado sky. This dynamic action scene first appeared on the cover of *Railroad Magazine*, August, 1949.





September 28, 1891, was a routine day in the lives of Mike W. Flavin and his crew, N. Martenis, engineer; Wm. Lyons, fireman; and J. E. England, brakeman. They left Gunnison with train No. 438, at 8:30 a.m., and arrived at Pitkin at 10:40 a.m. Aboard was one half-fare with a ticket plus four passengers who paid Flavin in cash \$1.90 each for a total of \$7.60. On train 437 the same crew left Pitkin at 12:30 p.m. and arrived in Gunnison at 2:30 p.m. On this trip Flavin had tickets for three full-fares and one half-fare to Gunnison, plus two tickets to Parlins. Two passengers paid cash of \$3.80 to Gunnison. At 3:20 p.m. the crew took train No. 439 from Gunnison to Baldwin, where they arrived at 4:50 p.m. They had one paid ticket, a rider on pass No. 982, no cash fares. On train No. 440 they ran Baldwin to Gunnison. Pass No. 982 rode with them. Gunnison arrival was 7:00 p.m. Flavin remitted \$11.40 which he had collected in cash. The same crew would follow this schedule tomorrow. These copies were made from the original "Conductor's Report" issued by the Union Pacific to M. W. Flavin, now among the collection of railroadiana of Colin L. Moore, of Gunnison.





C.L.&M. Railroad, only line serving Gunnison in 1963. Colin L. Moore, president and entire work force, services engine No. 266, which sports an old South Park bell and rides on South Park rails. Harp-type switch once served at Alpine Tunnel. Priceless relic is the original semaphore from Alpine Tunnel station, now mounted on Moore's workshop. Link and pin coupler is dated 1874. Entire Gunnison division of the C.L.&M. R.R. constructed by Colin L. Moore. *Photos by Author.*





To make this photo Charlie Webb placed his Rollei on the pile of dirt in the tunnel portal and walked through the water, making intermittent flashes with his strobe light. He continued across the rock fall. White streaks are reflected light from his flashlight, as he picked his way about in the darkness. *Charles Webb photo.*



Alpine Tunnel has been an inspiration to many artists including Otto Kuhler, Philip Ronfor, Richard Ward, and Margaret Flick. This West Portal oil painting was done by Louis Caricato, of Pueblo, Colorado.



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